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Canadian Paper Men Meet at Montreal

Record Attendance Is Present At 29th Annual Three-Day Convention of the Canadian Pulp and Paper Association — R. L. Weldon Elected President — Varied and Interesting Program Presented.

[FROM OUR REGULAR CORRESPONDENT]

MONTREAL, Que., January 30, 1942—Sober realization of the importance of the pulp and paper industry in wartime—serious determination that the industry shall not only meet to the full the added demands upon it which the war has brought about but shall contribute directly to the war effort of the Free Nations: these were the predominant notes of the 29th annual three-day convention of the Canadian Pulp and Paper Association which was brought to a close here today. Never in the history of the Association have so many members of the industry gathered together at one time to pool their knowledge so that answers can speedily be found to the industry's problems. The actual registration at convention headquarters was well over the 500 mark and it is estimated that around 900 attended the annual luncheon at which the retiring president, F. G. Robinson, delivered his report and address on behalf of the Executive Committee. He was able to announce that the company membership of the Association, increased by five during the year, now stands at 67, comprising over 95% of the Canadian production of pulp and paper. There are, of course, individual sections representing every branch of the industry, the membership of which is composed of executives and experts. All these sections are at full strength as regards membership and all are active and enthusiastic in pooling expert knowledge on the many-sided problems of the industry.

The New President

For the ensuing year the members elected as their president R. Q. Weldon, president of the Bathurst Power and Paper Company. Mr. Weldon was born in Winnipeg, Man., and came East to finish his schooling at McGill University, which he attended four years and was awarded both B.Sc. and M.Sc. degrees. His professional and business experience has been almost entirely in the pulp and paper industry. beginning with the Laurentide Company, Ltd. After several years he then joined the organization of the St. Lawrence Paper Mills, Ltd., at the inception of that Company. Upon the completion of their first unit Mr. Weldon resigned to become Designing Engineer with the Newfoundland Power & Paper Company. At the commencement of operations of their plant in Newfoundland he was made Assistant Mill Manager and in April 1928 was appointed Manager of this important unit of the International Paper and Power organization, becoming a Director of International of Newfoundland shortly afterwards. In January 1930, Mr. Weldon was moved to New York as Chief Engineer of the Company, continuing for some years in active management of the Newfoundland Company. In this position he came in close contact with the Bathurst Power & Paper Company, Ltd., in which International was then much interested. On the reorganization of Bathurst in 1936, Mr. Weldon was invited to become its President. Besides his membership in the Technical Section of the Canadian Pulp & Paper Association, and the Technical Association of the Pulp & Paper Industry, Mr. Weldon belongs to the American Society of Mechanical Engineers, the Corporation of Professional Engineers of the Province of Quebec, and the Enginering Institute of Canada.

President's Report

F. G. Robinson, in presenting the annual report, said in part:

During the year 1941 the Pulp and Paper Industry maintained its position as the foremost industrial producer in Canada, and stepped up materially in direct and practical ways support of Canada's part in the war. Output of all kinds of pulp and paper totalled close to 10 million tons, having a sales value of about 400 millions of dollars. Of this, in excess of a quarter of a billion dollars represents the industry's contribution to Canada's external money credits. Last year I referred to this as a vast Industry. Viewing these figures, it does not seem an over-statement. That this all time record production, representing an increase of about 380,000 tons over 1940, was accomplished by existing mills is a partial realization of the

(Continued on page 14)

Heavy Demand Creates Problem in Canada

Sharp Increase In Orders For Book and Writing Papers Causes Speculation As To How Manufacturers Can Supply the Abnormal Demand — No Shortage Expected In First Half of Current Year.

[FROM OUR REGULAR CORRESPONDENT]

TORONTO, Ont., February 2, 1942—There is beginning to be considerable speculation as to how long Canadian paper manufacturing facilities are going to be able to supply the abnormal demand created by the war and the consequent acceleration of business. In the opinion of Harold Crabtree, president of Howard Smith Paper Mills, as cited by the *Financial Post* this week, Canada should have available for commercial use in 1942 about 96% of the book and writing papers actually used in the average of the years 1938-39-40.

In giving this opinion Mr. Crabtree was not unmindful of the difficulties involved in forcasting demand when war conditions may unexpectedly alter both demand and supply for fine papers of all kinds, as well as wrapping papers and paperboard.

Ways and Means of Increasing Output

However, he feels that this estimate can be achieved by working mills on a basis of 6½ days a week or more, and by eliminating special grades, colors, sizes and weights. The estimate also takes into consideration a probable further increase in mill output of perhaps 5% and the assumption that the war effort will not require any further phenomenal demand.

Mr. Crabtree sees little danger of an actual shortage during the first half of the year, but beyond that he does not pretend to be able to even guess. Much is going to depend on the ability of Canadian paper mills to get an adequate supply of materials which they need. Already some materials are scarce or restricted in supply. Among these might be mentioned chlorine and casein. In the past, casein has been imported from Australia and New Zealand. Now it is hoped to be able to import it from the United States. If this is not possible, substitutes will have to be found. There is some prospect that other needed chemicals may become scarce as well.

As has been pointed out before, the restriction of imports is one important factor in the usually heavy demand for papers on the Canadian industry. This coming at a time when domestic demand was moving sharply upward, places a double burden on mill capacity.

Mr. Crabtree believes that Canada's present paper supply can be spread out to go much farther than it does at present. He mentions specifically:

(1.) Discouraging of "specials" in which printers can help by designing all pieces to cut out of standard sizes of paper.

(2.) Reduce grades and colors offered for sale so as to approach mass production.

(3.) Carry on a campaign to reduce weight of paper used. This means more yards per ton, more tons produced per hour and less man hours per yard of paper.

To help out in assuring a supply of waste paper, he calls on printers and paper users to avoid waste in their own plants and to salvage all possible used or waste paper.

Summary of Supply and Demand Situation

As summarized by *Canadian Printer and Publisher*, Mr. Crabtree indicates the demand and supply situation affecting the paper industry in Canada as follows:

INDUSTRY'S POSITION AT WAR OUTBREAK

	Capacity Tons	Domestic Use Av. 1938-39-40 (Incl. Government)	Capacity Operation %
Book and writing‡	145,000	138,000	94.4
Wrapping	48,000	41,950	87.4
Board	450,000	371,862	82.6

TO WHICH MUST BE ADDED ADDITIONAL TONNAGE BUILT OR BUILDING

	Additional Capacity Tons	On this basis operations in 1938-39-40 would have been %
Book and writing‡	20,000	83.6
Wrapping	12,000	69.9
Board	50,000	74.4

ADDING THIS ADDITIONAL CAPACITY WOULD SHOW

	Total Capacity Tons	Estimated War Needs Tons	Balance for Commerical Use Tons	Balance for Commerical Use As % 1939-40 Av.
Book and writing‡	165,000	41,250 (25%)	124,000	90
Wrapping	60,000	20,000 (⅓)	40,000	100
Board	500,000	125,000 (¼)	375,000	101

‡ Includes blotting, stationery, greaseproof, glassine and coated papers.

Additional Ways of Saving Paper

No doubt many additional ways of saving paper were discussed during the last few days at the annual meeting of the Canadian Pulp and Paper Association, but in the meantime, biscuit manufacturers in Ontario and Quebec have been getting together to conserve paper board. Plans worked out by the biscuit men call for the elimination of certain sized small cartons, the cutting down of the size of flaps on cartons and a reduction of the quantity of wax and glassine paper inside the carton where possible.

Cutting of supplies of cellophane and similar transparent papers for wrapping biscuits by 50% has already meant a switching over to the use of wax paper in many instances.

An Instance of Reduction Efforts

An instance of the paper reduction efforts is the agreement that on all seal-end cartons and combination seal bottom, tuck-top cartons, the outside flap shall not overlap more than one inch and the combined length of the inside flap shall not exceed the combined length of the outside flaps. This reduction in itself is expected to mean a considerable saving in paper board.

Goes With Western Precipitation Co.

R. Calvert Haws, for the past year an account executive with the McCarty Company of Los Angeles, has joined Western Precipitation Corporation to assist Richard F. O'Mara, sales manager, in advertising and sales promotion. Mr. Haws was formerly with Henri Hurst and McDonald, and head of his own agency in Chicago.

Chicago Reports Very Strong Paper Market

Decline In Orders For Coated Book Paper Viewed As Inevitable With Big Consumers Not Preparing Heavy Advertising Schedules This Year — Salesmen Plan Annual Session — Other Market News.

[FROM OUR REGULAR CORRESPONDENT]

CHICAGO, Ill., February 2, 1942—The long expected pinch in demand on certain lines affected by war shortages has become more and more noticeable in the Chicago area during the past week. Usual big consumers of coated book stock such as the automobile, tool and radio industries, are not preparing heavy advertising schedules for the simple reason that they have nothing to sell. This has had an increasingly marked effect in the demand for coated stock. Aside from this particular division, however, the market continues to be unusually strong, according to reports. Demand has widened out as increased purchasing power has come more and more in evidence. Prices, however, remain in the regular voluntary ceiling channel and the continued work of the industry in policing itself is considered a genuine compliment to the paper trade.

List Waste Prices For Housewives

A "Salvage for Victory" campaign has been launched in Illinois to draw every potentially useful piece of waste into the state's victory effort. Together with this announcement word from Morton H. Lynn, secretary of the Chicago Waste Material Dealers Association, that "the time for haggling and gouging is past. The nation needs the junk and the highest possible prices should be paid the householder. But the ceiling prices on scrap are set by the government so the householder should not expect too much." Mr. Lynn issued a price list of items the housewife would be most likely to save. The list shows the price the dealer gets and the price the peddler should pay on an average. Of interest to the paper trade are the following prics quoted by Mr. Lynn: Newsprint, the dealer gets 75 cents per 100 pounds and the peddler pays 40 cents per 100 pounds; magazines, the dealer gets $1 per 100 pounds and the peddler pays 50 to 60 cents per 100 pounds. No set price is given for what the dealer gets for rags but the peddler is quoted as paying from 1 to 1½ cents to the housewife.

Salesmen Plan For Annual Session

The Western Division of the Salesmens Association of the Paper Industry utilized its regular Monday meeting on January 27 to thoroughly cover plans for the annual meeting of the National Paper Trade Association to be held in New York City the week of February 16. Announcement was made concerning the annual Salesmans luncheon scheduled for February 17 at the Waldorf-Astoria Hotel and which is expected to attract the attention of more than 1500 salesmen and guests. The speaker is to be Mr. Eugene Peeples Thomas, President of the National Foreign Trade Council and Chairman of the Exporters Advisory Committee of the Export-Import Bank. His topic, the Western division members were told, is to be "Economic Accord Among the United Nations."

Meanwhile, the members of the Association perfected their slate for the annual elections to be held at the same time and it is indicated that popular Courtney H. Reeves, present western vice-president, is to be nominated as President of the Salesmens Association of the Paper Industry. Burt Fisher of the Bergstrom Paper Company, is reported as in line to succeed Mr. Reeves as vice-president of the western division. The western division has also appointed Ray George of the Tomahawk Kraft Paper Company as the 1942 golf chairman with Herman Berge of the Appleton Coated Paper Company as his assistant. The SAPEYES plan plenty of golf for 1942 despite war cares and problems.

New Era For Packaging

The transforming of packaging into a genuine war-time industrial problem as the hunt goes on for substitutes for tin, plastic, pigments and coatings, has had its effect in developing many new kinds of containers. The Container Corporation of America has developed two new containers to replace the tin can, both requiring rubber to lock out air and moistures, but which is being used by the government to pack foods for lend-lease shipment and which are not available to the public because of the rubber shortage. Another firm has developed a can with fibre sides and metal top and bottom. Another has found a silver-like glaze for paper wrappings while the Dow Chemical Company is reported to have developed a flexible plastic semi-transparent tubing to replace copper and other metal tubing.

Paper board packaging, according to local surveys, is going to be of simplified design. Coffee will probably be sold in paper bags or glass jars instead of tin and as the military demand for packages increases and more of the raw materials normally used in packaging goes into military channels, the industry expects even further drastic revisions in its products.

H. W. Clements on OPM Staff

Harvey W. Clements, sales manager of the Bemis Brothers Bag Company of Chicago, has been appointed a consultant on shipping bags for the containers branch of the Office of Production Management according to a January 19 announcement from P. D. Reed, special assistant on the OPM staff.

To Represent Champion Paper Mills

H. P. Winter & Co., Inc., 120 Wall street, New York City, parent company of Winter & Lauerman, Inc., have been appointed sales representatives in the United States for the Champion Paper Mills, Ltd., of Toronto.

The Champion Paper Mills, Ltd., are manufacturers of a varied line of machine glazed papers and they intend to put into operation about the middle of February a Fourdrinier machine on which they will make papers of a better grade, such as No. 4 bond, Writing, Mimeo and general Printing papers.

H. P. Winter & Co., Inc., are concentrating their present efforts on selling in the export markets of the world through New York exporters.

Evasion of OPA Prices Disturbing Trade

Failure of Some Waste Paper Dealers and Mills To Observe Government Price Schedule Reported Taking Business Away From Cooperating Concerns—Garrett-Buchanan Co. Holds Annual Banquet.

[FROM OUR REGULAR CORRESPONDENT]

PHILADELPHIA, Pa., February 2, 1942—Persistent evasion of Government regulations is disrupting the defense-vital scrap paper industry, your correspondent has learned. A number of chiseling waste paper dealers are making "scrap" out of the industry code set up by Price Administrator Leon Henderson, and are "kidnaping" business away from dealers and mills that want to obey the code.

The paper mills, in some cases, are shutting their eyes to the deception and are paying what the dealers ask because of the shortage of scrap. It is stated that in some instances, mills are conniving in the practices in order to induce scrap dealers to supply them instead of other mills. Reputable dealers and mill operators blame the chaotic conditions on the Office of Price Administration. Some say the price ceilings are too low or illogically formulated, thereby inviting evasion. Others say the only trouble is that the OPA isn't enforcing the code.

"We could clear up this situation in thirty-six hours," said an official of one of the largest Philadelphia scrap dealers, "if the OPA, with representatives of the industry would investigate immediately every reported violation."

Regional representatives of the OPA, who have just opened offices in the Pennsylvania Suburban Station Building, are understood to be planning an investigation.

"Black market" practices are infrequent in the Philadelphia area compared with other parts of the country, but the effects are felt throughout the industry, dealers said.

Garrett-Buchanan Hold Banquet

The employes from all branches of the Garrett-Buchanan Company, 12-20 South 6th street, assembled in the banquet rooms of McAllister and Sons, on January 16 to participate in the annual banquet customarily held by the company at this time of the year. Music was supplied by an orchestra while the floor show, which consisted of professional talent, was one never to be forgotten. Not included on the program but received with great enthusiasm and applause were a colored quartet and a soft shoe dancer, employes of the company. Strickland Gilliand of Washington, D. C., was guest speaker, and his humorous anecdotes kept the entire group in laughter.

George W. Weaver, present prexy of The Philadelphia Paper Trade Association, having been reelected to that office, is vice-president and manager of the company. Mr. Weaver, who is regarded by all who know him as "double lovely", announced the inauguration of a "25 Year Club." With a membership of twenty-five the club was auspiciously opened, comprising Morgan H. Thomas, president; George W. Weaver, vice-president and manager; Joseph Miller, vice-president; Frank H. Seltzer, vice-president and assistant manager; J. S. Weaver, J. M. Sorden, T. Trump, Anna Thomas, Harry Schlosser, Ed. Schlosser, Ed. Neumann, Fred Kurtz, John Kohl, E. Hillman, John Kerns, Merrill Heverly, John Heverly, Doyle Heverly, John F. Green, J. Fischer, J. Dollarton, Harry Burroughs, Harry Bernhardt, Ed. Buchanan and E. J. Peale. Each was presented with a gold signet ring, fittingly inscribed. President Thomas has the distinction of being the oldest member of the club in point of service, having rounded out forty-one years and in order to signally honor Mr. Thomas the employes added two diamonds to his ring, one on each side of the 25-year inscription. Harry Sloan made the presentation on behalf of the employes.

In keeping with the sterling qualities of this fifty year old company, George K. Weaver, on Friday evening, January 25, presented each employe with a defense bond in order "to encourage the employes to do their part in the defense of America." This is the second time that the employes of this company have been recipients of defense bonds, Mr. Thomas having presented each one with a bond at the company's Christmas Party, December 24. Mr. Weaver explained the Defense Saving Payroll Allotment Plan to the employes, and as a prelude to his remarks, president Thomas said that the Garrett-Buchanan company could be counted on to go along one hundred per cent, adding: "Count me in on this plan."

Import Committee Cooperates

The situation resulting from shipments of Canadian jumbo roll Fourdrinier products claimed to be duty free as pulp is being clarified. Several shipments of such material, including 100 per cent groundwood, 100 per cent sulphite, and mixtures of pulps, have been classified for duty as paper not specially provided for. The present procedure, however, is for the Canadian producers to so mutilate such shipments that the material cannot be used for any form of paper. It can then be admitted duty free, either as paper stock or as pulp. The Import Committee has cooperated with Canadian producers in making it possible for Canadian producers to ship Fourdrinier material to American buyers of pulp in this manner without payment of duty.

The State Department has announced that a Reciprocal Trade Agreement with Peru is to be negotiated, and that public hearings will be held February 2, 1942. All briefs relative to changes in tariff rates must be filed by January 24. A brief will be prepared by the Import Committee requesting concessions which may seem desirable to domestic exporters.

A supplemental reciprocal trade agreement with Cuba reduces the rate of duty on "paperboard or pasteboard manufactured on a base of mechanical wood pulp in combination with bisulphite pulp" from 1.95 pesos per 100 kilograms to 1.625 pesos.

Congressman Asks OPA About Shortage

Representative Jones of Ohio Calls Attention of Administrator Leon Henderson of the Office of Price Administration To Paper Scarcity — Tabulation of Paper Purchased By Government Given.

[FROM OUR REGULAR CORRESPONDENT]

WASHINGTON, D. C., February 4, 1942—Representative Jones of Ohio has called the attention of OPA Administrator Leon Henderson to the paper shortage about which the latter has been speaking for some time. The Congressman is calling attention to the waste of paper in the government service. In this connection he sent the following letter to Mr. Henderson this week:

I have noticed with considerable interest your announced campaign to conserve the use of paper in the interest of the war program. Already in response to suggestions made heretofore by various sources, the size of the newspapers, magazines and other publications of private enterprise have been materially cut. Many people writing letters have adopted the practice of using both sides of the page instead of one side.

However, there is a wide variety and extensive violation of the spirit of this conservation of paper program by the many Bureaus of the Federal Government itself that should be the first to deny themselves for the benefit of the war effort. I refer to the propaganda agencies of the Federal government.

Day after day, tons of paper are delivered to the newspapermen, columnists and radio stations as well as newspapers throughout the land and the public generally by the several bureaus of the government, each maintaining a separate press agentry, with the exception of the General Accounting Office. I have examined releases issued from time to time by these government departments and found numerous instances of two or more agencies carrying the same information. I am advised by members of the press that a great quantity of this material is not newsworthy and merely reaches the waste basket.

I have confidence that you will want to let the chips fall where they may in looking into this problem and feel sure that you will see the advisability of enforcing conservation of paper among the several bureaus of the government so that the government can be held up as an example of the kind of self sacrifice that you will call upon the people to make to conserve the use of paper.

At the present time our government spends $27,500,000 for information and propaganda agencies each year.

In order to acquaint you with the extent of the blank paper purchased by the several bureaus of the government from the Government Printing Office, I enclose the figures of cost for each year to 1940 and the estimated cost in 1941.

Tabulation of the amount of blank paper ordered by all the government departments and agencies including Congress for the fiscal years 1932 to 1941, the latter being estimated:

Fiscal Year	Amount
1932	$ 724,188.70
1933	412,918.74
1934	545,355.31
1935	146,921.29
1936	1,733,056.58
1937	1,333,826.08
1938	1,403,729.79
1939	1,658,733.23
1940	1,803,418.01
1941 (estimated)	2,515,857.81
Total	$13,597,005.54

Agriculture	262,699.27
American Battle Commission	16.02
Board of Governers Fed. Reserve Board	331.25
Board of Tax Appeals	97.68
Civil Aeronautics	6,015.09
Civil Service Commission	18,630.41
Commerce	116,786.18
Commission of Fine Arts	10.44
District of Columbia Government	53,624.06
Unemployment Comp. Comm.	2,062.91
Export-Import Bank	16.60
Farm Credit Adm.	15,327.28
Farm Security Adm.	370.98
Fed. Communications Comm.	12,981.91
Federal Emergency Adm. of Pub. Works	1,864.64
Fed. Home Loan Bank Board	13.75
Fed. Housing Adm.	5,206.65
Federal Loan Agency	63,237.91
Federal Power Commission	10,964.28
Farm Security Agency	64,128.02
Fed. Surplus Commodities Corp.	957.46
Federal Trade Comm.	10,635.14
Federal Works Agency	32,284.06
General Accounting Office	14,201.34
Home Owners Loan Corp.	11,687.04
Interior	134,368.76
Interstate Commerce Comm.	31,779.08
Justice	107,986.66
Labor	36,014.39
Library of Congress	835.02
Maritime Labor Board	16.93
National Advisory Comm. for Aeronautics	2,302.61
National Archives	170.75
National Bituminous Coal	3,209.18
National Emergency Council	757.20
National Gallery of Art	60.80
National Labor Relations Board	12,987.86
National Mediation Board	121.35
Navy	95,068.27
Office of Government Reports	7,920.87
Panama Canal	292.31
Pan American Union	976.99
Post Office	5,220.57
Railroad Retirement	25,865.03
Reconstruction Finance Corp.	15,792.71
R F C	1,814.43
Security and Exchange Comm.	62,992.85
Smithsonian	1,286.66
Social Security	14,163.84
Treasury	393,094.64
U. S. Housing Authority	497.72
U. S. Maritime Commission	13,195.20
U. S. Tariff Commission	6,487.60
Veterans Administration	24,225.30
War Department	83,016.83
W P A	14,094.45
Total	$ 1,803,418.01

Superintendents, Trustees to Meet

Members of the board of trustees of The American Pulp and Paper Mill Superintendents Association who may be in New York City to attend the annual meetings of the American Paper and Pulp Association, the Technical Association and other groups, during the week of February 16-19, are invited to attend a breakfast meeting to be held by President Oscar Stamets of the superintendents association on Wednesday, February 18 at 8:30 A.M. in the Commodore Hotel. (Meeting room will be announced on the Bulletin Board in hotel lobby.)

The meeting will be for purpose of discussing association business and plans for 23rd annual convention scheduled for June 16-18, 1942, in the Pantlind Hotel, Grand Rapids, Mich.

Past presidents and present local division chairmen of the association who may be in the city at the time are invited to attend.

Preliminary Program for Convention of National Paper Trade Association

Waldorf-Astoria Hotel, February 16-19, 1942

The 39th annual convention of The National Paper Trade Association will be held at the Waldorf-Astoria Hotel, New York City, February 16 to 19 inclusive. The following is the preliminary program for the convention:—

Sunday, February 15

2:00 P.M. Executive Committee—Pillement Suite.

Monday, February 16

10:00 A.M. Executive Committee Adjourned Meeting—Pillement Suite.

1:00 P.M. Luncheon — Executive Committee and Distributors' Advisory Representatives—Pillement Suite.

2:45 P.M. Open Industry Session — Grand Ball Room. Open to manufacturers and guests. President P. W. Lesh presiding.

Speakers:—

Norbert A. McKenna, Chief Pulp and Paper Branch, War Production Board.

R. C. Kettles, Jr., Chairman Distributors' Advisory Representatives.

Tuesday, February 17

10:00 A.M. Open Industry Session—Jade Room.

Speakers:—

J. F. Strub, Chief Distribution Unit, Pulp and Paper Branch, Office of Price Administration.

E. W. Tinker, Executive Secretary American Paper and Pulp Association, "A Broad View of the Picture".

2:00 P.M. Fine Paper Division Meeting. Vice-President J. H. Brewer presiding—Jade Room.

Speakers:—

George P. Lee, Chief Fine Paper Section, Pulp and Paper Branch, War Production Board.

Charles J. Grant, Chief Writing Paper Unit, Pulp and Paper Section, Office of Price Administration.

Albert F. Miller, Senior Business Analyst Fine Paper Distribution Unit, Office of Price Administration.

Report on Annual Survey

Simplification

Discussion of Merchants' Operation and Outlook

4:30 P.M. Wrapping Governing Committee — Assembly Room L.

4:30 P.M. Fine Paper Governing Committee—Assembly Room U.

8:30 P.M. Board of Directors — Assembly Room L M.

Wednesday, February 18

10:00 A.M. Wrapping Division Meeting. Vice-President C. E. Roach presiding—Jade Room.

Speakers:—

Frank W. Howe, Chief Wrapping Paper Section, Pulp and Paper Branch, W.P.B.

Martin D. Schwartz, Chief Industrial Papers Section, Pulp and Paper Branch, Office of Price Administration.

OPEN FORUM: POLICIES AND OPERATIONS OF WRAPPING PAPER MERCHANTS.

Interpretation and application of Governmental Regulations.

Changing Trends in Distribution.

Advantages of Printed Price Lists.

Credits and Discounts.

Sales Agencies and Contracts.

Delivery Economies.

2:00 P.M. Wrapping Division Meeting. Open Forum Continued—Jade Room.

4:30 P.M. Conference of Local Executives with National Counsel—Assembly Rooms J K.

Thursday, February 19

10:00 A.M. Annual Meeting — N.P.T.A. President P. W. Lesh presiding—Jade Room.

Official Reports

Address of Counsel, J. K. Javits

Election of Officers

Paper Associations Elect Officers

[FROM OUR REGULAR CORRESPONDENT]

COLUMBUS, Ohio, February 2, 1942—The Central States Paper Trade Association held its annual meeting and election of officers at the Columbus Athletic Club, Columbus, Ohio, on Tuesday, January 20, 1942, at which time, Don Z. Hegamaster of the Ohio and Michigan Paper Company, Toledo, Ohio, was elected president for the coming year, A. T. Nesbitt, of Cincinnati Cordage and Paper Company, Dayton, Ohio, was elected Vice-President and John L. Richey of Cincinnati, re-elected secretary-treasurer.

On the following day, Wednesday, January 21, at the Columbus Athletic Club, Columbus, Ohio, Middle States Wrapping Paper Association held its annual meeting and election at which time, C. V. Jewell of Capital Paper Company, Indianapolis, was elected president and Martin Gascon of Hubbs & Howe Company, Cleveland, Ohio, was elected vice-president and John L. Richey, re-elected secretary-treasurer.

Resolutions of regret were sent to O. A. Miller, chairman of the Board of Central Ohio Paper Company, Columbus, Ohio, who had recently met with a serious accident at his home where he is suffering from a broken arm and bruised leg.

A resolution was also passed, congratulating Dick Kettles, chairman, and the members of his advisory committee to O. P. M., on the excellent work they are doing.

Employment Tapers Off in Wisconsin Mills

Industrial Commission's Report Shows Slight Decrease In Number of Employees — Tapering Off Attributed To Converting Plants and Seasonal Slowness In Some Specialties — Other Mill News.

[FROM OUR REGULAR CORRESPONDENT]

APPLETON, Wis., February 2, 1942—For the first time in months, paper mills and allied industries in Wisconsin showed a slight tapering off in employment during December, according to reports issued by the Industrial Commission of Wisconsin. The payrolls had been climbing steadily throughout the year to take care of the heavy production demands, and in November attained a static position.

The decline is not attributed to paper and pulp mills, which are all operating at capacity with good backlogs, but is reflected in the situation in converting plants which are in some instances subject to rationing of materials. Plants producing holiday wrappings and other papers for the holiday season also were at the slump period of their year, and curtailed their schedules, with some layoffs.

December employment totalled 24,000 workers as against 24,200 in November, a decline of 0.9%. The average is still high as compared with December of 1940, when 21,900 workers were employed, 9.7% less than at present.

Weekly payrolls at $752,000 for December were off 1.7% from the November total of $765,000, but up 23.9% from the December figure of $607,000 a year ago. Some of this slump was accounted for by the holiday shutdowns, which were much more brief in 1941 than in other years. Weekly earnings averaged $31.33 per worker in December for an average of 43.6 hours, with the average hourly rate at 71.9 cents.

Employment was also down 0.1% in December for 19 plants reporting in the Milwaukee metropolitan area, where 2,213 workers were listed, with an average weekly payroll of $64,220, down 0.5 per cent from November. Individual earnings per week averaged $29.02 for 43 hours, at an average hourly rate of 67.5 cents.

Printing, publishing and allied industries in Wisconsin held fairly steady during December with 10,300 workers reported, the same number as for November. This compares with 9,700 in December, 1940. Weekly payrolls increased from $367,000 in November to $391,000 in December, a gain of 6.6%. They are 15.1% higher than a year ago, when the total was $340,000. The hourly rate now averages 90.7% for a work week averaging 41.8 hours, with average earnings of $37.95. In the Milwaukee metropolitan area, 41 plants reported 3,128 workers, a reduction of 0.3% from November. Weekly payrolls of $64,220 were down 0.5% for December as compared to November. Weekly earnings average slightly higher than the state as a whole at $39.03 for 41.5 hours at 94.1 cents per hour.

Consider Selective Logging Law

Legislation that will require selective logging in combination with reforestation was under consideration for Wisconsin at a meeting at Wausau, Wis., January 24, attended by conservation groups and representatives of paper mills and lumber companies. A bill of this nature which missed passage by one vote in the Assembly at the last session was under discussion. Senator Ambrose B. Coller, who vigorously opposed it, explained his objections, contending it was impracticable. Another meeting is planned soon to which a larger group will be invited.

Meanwhile, reforestation is being carried on vigorously by the Wisconsin Conservation Commission. A report just issued shows that 25,000,000 trees were distributed from Conservation department nurseries last year to a variety of forest plantations. Millions more will be available for spring planting. About 15,000,000 trees went into state and county forests and the remainder into shelter belts, erosion control and private plantations. The objective is to increase Wisconsin's wood resources as rapidly as possible.

Research is also being pushed at the United States Forest Products Laboratory at Madison, Wis., especially to speed up the problems of increased wood usage and better processes to meet wartime needs and substitutions for metal. The staff in the laboratory and in field work has begun working five hours per week additional without increased pay because of the load, according to C. P. Winslow, director.

Loyalty of Labor Called For

Loyalty of labor in war production was called for by John P. Burke, president and secretary of the International Brotherhood of Pulp, Sulphite and Paper Mills Workers, in an address to an audience of 400 at Menasha, Wis. Saturday evening, January 24. His address featured the annual three-day union label exhibit and mardi gras of the Neenah-Menasha Trades and Labor Council at S. A. Cook armory, featured largely by products of local paper mills and converting plants.

Patents Granted to Wm. C. Nash & Sons

Patents for two paper machine improvements have been granted to William C. Nash and Sons, Menasha, Wis., builders of patented paper mill machinery. One is on a vacuum roll paper making machine, embodying improvements over original patents granted 40 years ago. Through use of vacuum rolls, production of paper machines is speeded up without increasing the length of the machine. The other patent is for a shaft collar with a safety device to lock paper reels on shafts. It is designed so the reel will not slip even if the paper web breaks. However, the collar is removable without use of wrenches when the machine is idle.

John R. Kimberly, a director of the Kimberly-Clark Corporation, Neenah, Wis., has been assigned additional duties in the Office of Production Management at Washington, D. C., where he has been serving since November as consultant in the industrial and office machinery branch. Under the regrouping of new war production boards, he has been named supervisor of industrial and office machinery, pulp and paper, printing and publishing, transportation and farm equipment and communications.

CANADIAN PAPER MEN MEET AT MONTREAL

(Continued from page 7)

"hidden resilience" of the Industry, of which mention was made on this occasion last year.

The Pulp and Paper Research Institute of Canada, under the Joint Administrative Committee established late in 1940 under agreement between the Dominion Government, McGill University and the Association, has been brought into close-knit and simplified operation under Dr. Otto Maass, its General Director. By voluntary action the Woodlands Section arranged that its research programme be carried on under the auspices of the Institute, so completing the unification of all research activities in the Industry under one administration.

The quarterly progress reports circulated to the Industry reflect only a small part of the highly useful work being done, because the Institute is progressively more occupied with research and development bearing directly on chemical and other scientific aspects of the war. Valuable results have been obtained, and the Industry takes pride in continuing this contribution towards the effectiveness of the Nation's offensive and defensive weapons. By his huge capacity for work, his quiet determination, his gifts, of scientific knowledge, Dr. Maass has welded all in enthusiastic and unremitting pursuit of the end sought.

Wartime Machine Shop Board

In other directions also the Association has stimulated war efforts and contributed thereto in specific ways.

In May 1941 the Wartime Machine Shop Board was set up, under the auspices of your Executive Committee, to implement recommendations of the War Effort Committee of the Technical Section.

The purpose of this Board was to coalesce the Industry for alleviating the shortage of skilled tradesmen and lack of machine tools necessary to prosecute Canada's war effort.

Some 1,500 mechanics have completed or are undergoing training for the higher categories of skilled mechanical work in practically every one of the 83 pulp and paper mills in Canada.

On various occasions throughout the year, by reason of having initiated this training plan, the Industry has been able to release on loan large selected groups of skilled supervisors to instruct partially skilled workers in mechanical war industries being initially brought into production;—in addition, many key men were released to form the permanent backbone of the supervising staffs in newly-organized war industries.

Although the training and up-grading of staffs under the Wartime Machine Shop Board was conceived primarily as a measure to speed maximum production of new war industries coming into operation, it has also made possible the contribution of a large number of skilled mechanics to the armed forces without collapsing the output of pulp and paper; on the contrary, new records of production are constantly being made. Surely this is a tribute to the fine spirit with which the workers have thrown their weight into "getting on with the war" effectively by planned co-ordination.

The making of machine parts and assemblies in the maintenance machine shops of the Pulp and Paper Industry has been rapidly developed by relating their facilities to the needs of heavy war industries, and vice versa, through an engineering advisory service headed by a full time Co-ordinator.

In the short time since May last, production has been developed of parts for corvettes, mine sweepers, cargo vessels; for the manufacture of ordnance,—and of a multitude of special devices, the details of which are confidential.

The value of deliveries to date exceeds one-half a million dollars. The value of work in progress today is over a million and a half dollars. It is estimated that the total value of deliveries during 1942 will be about 5 million dollars. The cash value is but a minor indication of the potential output so released by the elimination of "bottlenecks" in the heavy war industries served.

The Wartime Machine Shop Board is essentially a non-profit-making body operating in collaboration with the Department of Munitions and Supply.

An Essential War Industry

Although the Pulp and Paper Industry had been officially recognized as an essential war industry, the Association recognized a responsibility to voluntarily alleviate the burdens of control, largely exercised by industrialists of high standing, who serve gratuitously to benefit the National War Effort.

In all its relationships with Government Departments, your Executive Committee has pursued the traditional policy of this Association,—to avoid posing problems without at the same time presenting a solution conceived to meet the exigencies of the National interest,—and permit the continuance of the Industry's large contribution to the Nation's welfare and financial integrity.

The flexibility of the Association's organization makes available on short notice the considered judgment and sound recommendations of groups having specialized knowledge bearing on ordinances and regulations promulgated in connection with National wartime economy. The many calls for this purpose that have been made on members by your Executive Committee and the Officers of the Association have been responded to with an alacrity and concentrated application to the specific matter in hand that has brought creditable results,—for this we thank those who have so willingly contributed their time and special abilities. It is only by the continuance of such activities that we can hope to maintain the virility of the Industry and pull our weight creditably in the National War Effort.

In the sphere directly related to the war, mention may properly be made of the war needs of the Industry's products by the United Kingdom, and by British Commonwealth and Allied Countries.

The makers of boxboard and wallboard have successfully met demands from England, which due to war conditions have of necessity been spasmodic and therefore difficult to meet adequately, without disrupting other urgent demands for war needs here. As compared with pre-war years, shipments of wallboard somewhat more than doubled.

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"KEEP 'EM ROLLING"

It is now more than ever advisable to secure maximum performance and service life from your rubber covered rolls. As "The Rubber Roll Specialists" we are prepared to furnish information on which you can base a practical program of rubber roll maintenance and conservation.

Write for bulletins on the best methods of storing, handling, grinding and operating rubber rolls and for a Roll Service Record Book which makes it easy to keep complete records of specifications, grinding data, and service life. This service is free and without obligation.

Stone-Woodward

THE RUBBER ROLL SPECIALISTS

Newton Upper Falls, Mass.

The book and writing mills and makers of wrapping papers have shipped considerable tonnages essential to the car needs of British Commonwealth and Allied Countries, which in pre-war days were supplied from other sources, not now available.

Exports of all kinds of pulp to the United Kingdom were again substantially increased during 1941, —by about 50 per cent over 1940. As compared with pre-war years, tonnage exported to United Kingdom increased nearly four times. This was accomplished without serious dislocation of normal exports to the United States—in fact such exports were increased about 30 per cent.

New War Products

The development of casings made from laminated paper and paperboard for protecting shells in transit has called for the highest degree of ingenuity and activity in various branches of the Industry. The requirements, which stated in units amount to astronomical figures, are being met in a manner that reflects credit on the Industry.

The Industry as a whole continued to contribute through the Canadian Red Cross Society stout and warm blankets of generous size, issued by them principally to bombed civilians in England. These blankets are made from used and damaged paper machine wool felts,—completely reconditioned and sterilized by the felt makers of Canada. Their generous contribution is most gratefully acknowledged,—as is also the free transportation of these Red Cross supplies by the Canadian railways. During the year 4,650 blankets were delivered. Some parts of the felts donated were not usable. These were sold as scrap, the cash proceeds being turned over to the Red Cross. Including the cost of reconditioning donated by the felt mills, the total of these contributions for the year amounted to $28,318.60.

Industry Under Forced Draft

Naturally, in war time war activities are to the fore, but the basic organization of the Association has continued to function under forced draft, keeping pace with increased demands upon it.

With the prospect of more exacting war conditions, the Industry is setting its mind very actively to these matters of conservation. Materials, equipment and workers are becoming more scarce, and will be still scarcer. It behooves the Industry to take steps that ensure beyond peradventure the real needs of pulp and paper for the prosecution of the war, even though this entails more drastic rearrangements in the use of pulp and paper by the community at large.

It may not be amiss if a few salient facts be stated in round figures as to the Industry's widespread contribution to the economic well-being of the entire country. Some of the annual distributions in money made by the Industry's operations are:

Food Supplies	7	Millions
Fuel	13	"
Chemicals	14	"
Paid to farmers and settlers for pulpwood	18	"
Hydro-electric power	20	"
Taxes	30	"
Transportation—direct payments only	60	"

When one considers that, in addition, the Industry provides employment to about 135,000 workers, when seasonal woods operations are included; that with their families these workers make up a total of probably not less than one-half a million, whose livelihood comes directly from the Industry,—there can be no question that the healthy strength and well-being of the Pulp and Paper Industry is the concern of *everybody* in Canada.

Valedictory

As my valedictory, may I repeat what I said when two years ago you placed me in the honorable office of President of this Association:

> "Let us see to it that the Association represents the Industry with unanimity, and with dignity and effectiveness,—and hands it on sound and strong to the next generation."

It has been wisely said: "Fear not to sow because of the birds." The harvests are not regular; the reaping may come years after the sowing; but let us hold firmly the belief that the good seed bringeth forth good fruit. We all know that the utmost each one of us can expect is to play as well as each of us knows how—one part in one moment of one scene of the great drama of life. The rest is—faith. Out of experience—intimate experience—I have deep-rooted faith in my successor—that means loyalty. Let us have also—faith in ourselves—that means courage; faith in the Industry—that means goodly toil; faith in the destiny of Canada—that means sacrifice.

Newsprint Association of Canada

A feature of the convention was an address by Paul Kellogg, deputy-president of the Newsprint Association of Canada. He first described to combined efforts of the Pulp and Paper Association and Newsprint Association as directed by the Joint Board, saying that it meets monthly, allocating to one or the other association questions concerning the industry for immediate action, decisions being reviewed at the next meeting of the Board. The results in co-operative effort had proved highly satisfactory. Certain statistics covering the entire industry were also issued in the name of the Board, which, in addition connected and disseminated facts about the pulp and paper industry. The Board was being supported financially by 99.1% of the total volume of pulp and paper manufactured in the Dominion. He proceeded:

Now a few words about the brother in the happy Pulp and Paper family who is known by the name of "Newsprint." This brother is in truth the family foreign representative, for the Newsprint Industry continues to export nearly 95% of the product it manufactures.

Shortly after the outbreak of the war, the Industry in a public statement, pledged itself to maintain stabilized conditions of continuous supply, with the co-operation of its customers. It has kept its pledge and has received the desired co-operation from the publishers. As a result we have during the past year filled the newsprint needs of practically the entire free world, within the limits of transportation facilities in the case of overseas shipments.

The resulting tonnage of newsprint manufactured in 1941 was, however, only slightly greater than in 1940. Of the total 80% went to the United States in 1941 as against 75% in 1940. Stabilized conditions were further reflected in the maintenance throughout the year of the basic selling prices established as long ago as January 1938. Two unusual conditions contributed substantially to the ability of the industry to thus carry on: first, the gains to the industry from

the exchange premium on U. S. dollars and second, the use of newsprint machines for other products.

"Other Products" From Newsprint Mills

For the first time in the existence of the Canadian Newsprint Industry at anywhere near its present size, its productive facilities were used extensively for products other than newsprint. In some mills fourdrinier machines were used to dry pulp, largely for shipment to the United Kingdom. Substitutes for certain scarce kraft products were also manufactured, notably a 9-point corrugating sheet, and to a less extent a 40 pound wrapping sheet. Some 100,000 tons of these substitute products were manufactured during the year, all in the second half, when approximately fifteen per cent of the total available productive time of newsprint machines was used for these other products, all of which were exported from Canada. In recent months these products have been manufactured at a rate of 225,000 tons per year.

During the war period the newsprint manufacturers face the probability of considerable change in their business. What the nature of these changes will be doesn't yet appear clearly. Suffice it to say that the members of the industry will co-operate to the full in adjusting the industry to the war needs.

Our troubles are in most respects similar to yours. High costs, shortage of labor—particularly in the woods, difficulties in getting materials and so on down the list, all make familiar reading to you who manufacture the other products of the industry.

The demands of war-economy have given us a temporary respite from some difficult fundamental problems which have been plaguing us in recent years. The members of the industry however, are not blind to the fact that these troubles will probably return with increased intensity after the war, and even now we are attempting to find means of overcoming them when they do return. In the meantime, and in the prospect of these difficult days ahead, it is particularly satisfactory to know that through the Joint Board we may work with you, the representative of the rest of the industry, to make sure that in all our plans and projects we shall be united in doing those things which will be for the best good of our beloved Canada.

The Industry's "Bits and Pieces" Program

The progress of the Wartime Machine Shop Board of the Canadian Pulp and Paper Association in producing "bits and pieces" to speed Canada's war effort was vividly portrayed by E. W. Harvey Co-Ordinator of the Board. In the foyer of the hotel where the meeting was held an exhibit of some of the material being produced in the industry's machine shops for prime contractors was on display and was supplemented by a series of photographs showing work in progress at other mills.

At a meeting held under the auspices of the Technical Section of the Association, Mr. Harvey outlined the inception, the growth and progress of the plan to date. His address was illustrated by a movie taken at different mills showing the types of work being handled. Movies produced by the United States Department of Education for the training of skilled mechanics were also shown and these are being made available to the mills to speed up the training of mechanics required to replace men loaned to other war industries and to keep the Machine Shops of the Industry on a twenty-four hour basis.

While the dollar volume of the work produced gives little indication of its value, since it is of the "bottleneck" variety, Mr. Harvey stated that production is currently at the rate of $5,000,000,000 per year and that practically every mill in the industry is participating in this program.

So far, he said, the industry's contribution to the war effort had included $3,000,000 worth of machine shop products, including parts of corvettes, merchant ships and airplanes and ranged from gun mountings to cargo winches, from fuel and air pumps to safety valves. He said the industry had taken on this program when it became apparent that there was a shortage of machine tools and that, in consequence, there would be many bottlenecks in production.

Election of Officers

Woodlands Section—W. G. Wright, of Price Brothers and Company, Limited, Quebec, was elected chairman for 1942, succeeding L. A. Nix, of the Bathurst Power and Paper Company, Limited, Bathurst, N. B. J. V. Perrin, Brown Corporation, Quebec, was elected vice-chairman, with the following as councillors: F. Faure, Consolidated Paper Corporation, Montreal; V. E. Johnson, Canadian International Paper Company, Montreal; R. G. MacFarlane, Fraser Companies, Limited, Edmundston, N. B.; E. B. McGraw, Ontario Paper Company, Limited, Montreal; G. W. Phipps, Spruce Falls Power and Paper Company, Limited, Kapuskasing, Ont.; H. G. Schanche, Abitibi Power and Paper Company, Limited, Toronto; L. A. Nix, Bathurst Power and Paper Company, Limited, Bathurst, N. B., and J. O. Wilson, Anglo-Canadian Pulp and Paper Company Limited, Quebec, the latter ex officio.

Technical Section—E. D. Hyndman, of Anglo-Candian Pulp and Paper Company, Limited, Quebec, was elected chairman for 1942. Councillors named were G. E. Shipman, Donnacona Paper Company, Limited, Donnacona; D. F. Read, International Fibre Board Company Limited, Gatineau; C. A. Sankey, Ontario Paper Company Limited, Thorold; H. D. Hyman, J. R. Booth Limited, Ottawa; W. T. Bennett, Canadian International Paper Company, Limited, Gatineau, and W. A. Ketchen, Fraser Companies Limited, Edmundston, N. B.

Medals for Best Paper

At the Technical Section meeting the I. H. Weldon medal for the best paper read by a senior member at the 1941 annual meeting was presented to Carl D. Jentz, of St. Lawrence Paper Mills Company Limited, while the Howard Smith medal for the best paper by a junior member was presented to K. D. Running, of Anglo-Canadian Pulp and Paper Mills Limited.

Mr. Jentz's paper was entitled "Flash Roasting of Pyrites," and the title of the Running's paper was "Hardwood Utilization by the Paper Industry."

Work of the Technical Section

Reporting on the year's activities of the Technical Section, W. B. Scott, retiring chairman, mentioned the increase in membership of ninety-one new members and four new affiliated members. The final membership figure at the end of the year was four hundred and eleven. He reminded the members of the demise of Mr. R. A. McInnis, a past chairman of the Technical Section and a past president of the Canadian Pulp and Paper Association. Mr. McInnis had been a true friend of the Technical Section.

Mr. Scott reviewed the activities of the Summer Meeting at the Seigniory Club, which had a record attendance. The success of the idea of holding group discussions, at which members discuss questions submitted by the mills, was attested to by the interest shown.

Dealing with the work of the various standing committees he mentioned in particular the issuing of the Technical Section Manual, which explains in detail the ramifications of the Section, and the issuing of the bound volume of Engineering Data Sheets. He referred also to the appointment of Douglas Jones as a full-time, qualified enginer, to act as secrtary to the section.

For Greater Wartime Efficiency

There was an interesting round table discussion of plans for greater efficiency in pulp and paper operations under wartime conditions. A. Koroleff, Forester of the Association, who led the discussion, said, in part:

"Finding means for elimination of waste effort in the woods now is a much more important and urgent need than it was under peace conditions, and it is our duty to see to it that such findings are applied adequately and promptly. In spite of the greater difficulties to overcome it is our duty to plan ahead as carefully and as thoroughly as we can.

"Hand to mouth practices in planning, with such wasteful zigzagging as they usually lead to, can be even less tolerated now than in normal times. However difficult it may be we must persistently strive for sufficiently far-reaching planning; even the rehabilitation period should receive very careful consideration without delay. We also must watch the developments and the trends with careful attention and exercise foresight to be ready for suitable alterations of the plans just in advance of such eventualities as may demand them.

"The Woodlands Section of our association must do its full share in helping the industry to fulfill its most readily given pledge to assist the country in its war effort. The predictability of some pertinent factors is decreasing, making planning much more difficult; the demand for wood is great and growing, while manpower and supplies needed for woods operations are getting more difficult to obtain."

Lieut.-Col. Howard Kennedy, formerly manager of the Quebec Forest Industries Association, and now a member of the General Staff of the Canadian Army called for sympathetic support for the General Staff in conducting war operations. He cautioned them against expecting the General Staff to do magic, to produce rabbits out of hats, remarking: "In the pulp and paper industry we have made great mistakes in the past and the excuse we often heard was that the industry had grown ten-fold in 25 years. Well, the Army has increased 100 fold in two years; that goes for the Canadian Army and is nearly as great for the British Army, and you are expecting people in two years to be able to meet on an even basis the Boche who has had seven years of all-out effort in producing materials and training men."

Technical Papers

As always a number of highly informative papers on technical subjects were presented at the meetings of the Technical Section. A list of these papers, together with brief descriptions of their contents, follows:

Slime Control in a Modern Newsprint Mill.—Norman S. Grant, Chief Chemist, The Great Lakes Paper Company Limited.

The methods of controlling slime growths at a large newsprint mill are described. The use of pentachlorophenols and similar chemicals was found in this case to produce very beneficial results.

Colorimetry of Pulp and Paper with Special Reference to "Brightness" and "Whiteness."—Dr. D. B. Judd, Research Physicist, National Bureau of Standards, U. S. Dept. of Commerce.

Definitions of the terms used in describing the optical properties of pulp and paper are made. The I.C.I. method of fundamentally specifying the optical properties of pulp and paper is described and explained. The importance of color and of a thorough knowledge of the difference between brightness and whiteness is stressed.

A Stock Preparation System.—F. S. MacDonald, Production Manager, J. R. Booth Limited.

The stock preparation system at J. R. Booth Limited recently installed is completely described. The system involves the defibering of stock in a hydrapulper and subsequent refining under very accurate control in hydrafiners. A special batching tank, introducing a new idea in mixing termed "stratifying," is also described.

Useful Engineering Devices.—Sponsored by Ottawa Sub-Committee of Engineering Committee. Chairman: Geo. Stephenson, Mech. Supt., E. B. Eddy Co., Ltd.

A paper sponsored by one of the Engineering Subcommittees describes seventeen mechanical devices submitted by various mills. These mechanical ideas have been devised to circumvent some engineering difficulty. Among those described is a special device for sampling chips being transported to the chip bin, a sewer sampler, various safety devices, and other gadgets which have proven beneficial in specific instances.

Data and Observations on Cable Conveyor Performance.—Prepared by Wood-Handling Sub-Committee of Engineering Committee, Chairman K. F. Wrangell, Mechanical Engineer, E. B. Eddy Company.

This is a report of an Engineering Sub-Committee which for some eighteen months has been studying the operation of cable conveyors used throughout the industry in handling wood. Definite conclusions are arrived at which lead to definite recommendations as to design of conveyors, button spacing, button weight and other factors which will materially reduce maintenance charges against these conveyors.

A Newspaperman Looks at Newsprint.—W. E. Wines, Manager, Mechanical Department, American Newspaper Publishers Association.

Mr. Wines explains the views of a newspaperman regarding the performance of newsprint in the pressroom. He advances the ideas as to how he feels newsprint quality may be improved so as to improve its printability.

Controlling Manufacturing Costs.—A. F. Gurr, General Cost Accountant, Consolidated Paper Corporation Limited.

A new endeavor on the part of the Technical Section, this paper serves to introduce a discussion of manufacturing costs and cost distribution. Each department in the mill organization is explained as being a separate business buying and selling commodities to other businesses in the organization. The head of

AS THE COIL of the first Atlantic cable stretched its history-making course through the depths of the ocean between America and Europe, it became not only a physical bond between the continents, but a symbol, as well, of unprecedented progress to benefit the trade of the world. That the Atlantic cable achieved this in the cause of commerce is now living history.

UNITY...HALL-MARK OF GREATNESS IN ENTERPRISE

"AWAITING THE REPLY." PAINTING BY ROBERT DUDLEY. REPRODUCED BY COURTESY OF THE METROPOLITAN MUSEUM OF ART

Similarly, to broaden the scope of their endeavors with benefit to those they serve, the Niagara Alkali Company and the Electro Bleaching Gas Company have united the strong strands of their enterprises to become one...the Niagara Alkali Company. The quality reputation of all products...the fine traditions of management...will continue to distinguish this greater American business in the field of chemicals.

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each of these integral parts must control his own costs carefully, so that the cost picture for all may be properly balanced by the mill manager.

WAR EFFORT IN THE INDUSTRIES MACHINE SHOPS.—E. W. Harvey, Co-Ordinator, Canadian Pulp and Paper Association, Wartime Machine Shop Board.

Mr. Harvey explains the formation of the Wartime Machine Shop Board, which developed from a suggestion received from members of the Technical Section. He shows a short film of the work being done in the shops of some of the mills. A permanent exhibit will be set up, consisting of still pictures and samples of finished pieces made in the industries machine shops as its contribution in the national effort.

STUDIES IN CLASSIFICATION AND REFINING OF GROUNDWOOD PULP.—J. D. Brown, Groundwood Superintendent, Canadian International Paper Company, Three Rivers Division.

Fibre classification studies are described which lead to an investigation of the refining of coarse groundwood and subsequent blending into the regular groundwood pulp. A reduction in the horsepower required to perform this operation is shown with no loss in pulp quality.

GROUNDWOOD AT 5400 SURFACE FEET PER MINUTE.—J. B. Jones and W. W. Holland, Control Superintendent and Groundwood Superintendent, The Ontario Paper Company Limited and Quebec North Shore Paper Company.

Part I describes commercial scale production of groundwood produced at 5400 Surface Feet Per Minute, on a four pocket Carthage Grinder. Part II covers further development work still at 5400 S.F.P.M. but with the new Roberts' Grinder baffled for two foot operation.

A RAPID DETERMINATION OF FREENESS IN THE GRINDER ROOM.—E. Cowan, Engineer, Lake St. John Power & Paper Company Limited.

A method is described which provides a rapid determination of freeness and consistency during operation.

COMPOSITE REPORT OF THREE GROUNDWOOD STUDIES.—Sponsored by the Groundwood Committee.

(a) Screen Plate Comparison Performance.—I. H. Andrews, Powell River Company Limited.

(b) High Pressure Front Shower Grinder Operation on Hydraulic Grinders.—J. D. Brown, Canadian International Paper Company.

(c) The Effect of Brooming on Groundwood Rejects.—Dr. J. Edwards, Price Bros. & Company Limited, Riverbend.

(a) presents a comparison between Quiller Screen Plates.

(b) describes the results obtained with a front shower on the stone in hydraulic grinders.

(c) experiments are described which show that the broomed ends of logs chiefly contribute to an increase in tailings.

MECHANICAL DEVELOPMENTS IN PULP BLEACHING.—V. Ullman, Associated with Paper Machinery Limited.

The various processes of bleaching are described. Mechanical developments in design of equipment is explained.

SOME OBSERVATIONS ON THE EFFECT OF WOOD STAIN ON PULP CLEANLINESS.—L. J. Rioux, Sulphite Mill Superintendent—M. J. Barsalou, Assistant Chemist, Fraser Companies Limited.

The appearance of black hair-like fibres in sulphite and groundwood pulp is explained. A theory as to means of controlling these shivy fibres is advanced.

WASTE IN PULP MANUFACTURE.—Sponsored by Waste Committee, Chairman, W. H. Birchard, Assistant to Chief Chemist, Fraser Companies Limited.

A review of the various points in the flow sheets of pulp and paper mills at which waste ocurs is made. These wastes are evaluated and some suggestions as to their elimination is advanced.

Round Table Discussions

Round table discussions by members of the Technical and Woodlands Sections of questions submitted by company members of the Association also took place, much useful information being thus disseminated. Among the proceedings of the Woodlands Section was a report by A. Koroleff on the progress of a study of pulpwood skidding technique, aiming to reduce waste effort and conserve labor.

OPA Issues Paper Board Order

WASHINGTON, D. C., February 4, 1942—Wholesale distributors of paperboard east of the Rocky Mountains are permitted to charge customary resale prices to purchasers under an amendment to Price Schedule No. 32 for paper board, announced today by Leon Henderson, Administrator of the Office of Price Administration. The amendment is effective as of January 30, 1942.

The amendment, modifying Appendix D of Amendment 4, permits wholesale distributors a price allowance comparable to, but not exceeding, the regular allowance customarily charged by them for the type of sale and the paperboard involved in the period between October 1, 1940, and September 30, 1941. This applies to the sale in any quantity of paperboard covered by the schedule. The mark-up schedule for quantities up to 6,000 pounds is cancelled.

In the event that no sales of the same type and quantities were made during the period specified, the wholesale distributor, before invoicing any quantity, must apply to the Office of Price Administration as provided in Paragraph (b) of Section 1347.64.

Movies On Clay Mining at Kalamazoo

The next meeting of the Michigan Division of the American Pulp and Paper Mill Superintendents Association will be held on Thursday, February 26, at the Park-American Hotel in Kalamazoo. Dinner at 6:30 P. M.

Arrangements have been made to present two motion pictures. The first picture, which illustrates the methods of mining and processing clay is a colored motion picture entitled "Strip-Mining in Clay Pits by use of Portable Conveyors" and will be accompanied by explanatory comments by O. W. Callighan, sales engineer with Edgar Brothers Company.

The other film is a sound motion picture on "Modern Methods of High-Grade Paper-Making and Substitute Pigments for Paper-Making" which deals with the use of clay as a filler, clay in conventional clay-coatings, and the use of clay in coatings applied on the paper machine.

In order to secure these outstanding pictures for the program, it has been necessary to change the time of the meeting from the customary third Thursday of the month to the fourth Thursday, which falls on February 26.

Lake States TAPPI Hears R. B. Wolf

R. B. Wolf, manager of the Pulp Division, Weyerhaeuser Timber Company, addressed the Lake States Section of the Technical Association of the Pulp and Paper Industry at the Conway Hotel, at Appleton, on January 28.

At the request of the local committee, Mr. Wolf, after some introductory remarks regarding his past experiences in dealing with labor organizations, described the operation of the uniform labor agreement in use in the States of Washington, Oregon, and California where thirty-four mills are operating under a blanket agreement. He pointed out that while it was not consciously planned, the industry finally realized that it had set up what in effect is a republican form of government with its legislative, executive, and judicial branches, and that those taking part recognize themselves as "citizens" of the industry. Mr. Wolf pointed out that the operation of the industry under such written agreements was in effect constitutional government within the industry, and that the written agreements (which include among other things the mill rules) in a very real sense were an application of the principles adopted when the Federal Government was formed in 1789.

Those present were: L. H. Andrews, Joseph Ackerman, Jr., Joe Atchison, M. J. Auchter, John W. Anderson, H. Babcock, John W. Bard, L. R. Barlament, Arnold Beaman, Fred W. Bentzen, Paul Boronow, C. H. Boyer, George J. Brabender, C. A. Brundte, H. A. Chuse, W. C. Christensen, James B. Clarke, C. C. Crosier, Neil H. Christian, J. Plank, Glenn Carroll, Jack Dickson, H. P. Dixson, C. L. Durkee, H. A. DuBois, J. Doerfler, G. F. Enderlein, W. P. Fenney, H. W. Frazer, R. Ganzer, Geo. R. Gerritts, Wm. A. Geiger, John H. Graff, Geo. M. Hall, A. J. Hayes, John M. Hayes, W. M. Hayes, John A. Hanson, R. P. Hill, R. W. Holden, Lynn D. Howell, W. O. Johnson, Sophus Johnson, Harold Knickard, Stephen Kukolich, G. T. Latham, N. L. Malcove, G. M. Markle, W. M. McGraw, L. J. McNamara, J. S. Mohr, C. R. Morse, F. A. Nichols, R. A. Nugent, E. J. Oleson, P. A. Paulson, L. B. Penhallow, A. Phillipe, Marin Phillips, Harry Pierce, Wm. J. Plank, D. C. Porter, T. R. Probst, E. A. Rafeld, E. W. Rasmussen, L. H. Reed, Charles H. Reese, Myles Reif, John C. Redd, Herbert W. Rowe, Fred W. Sanders, A. Schenck, H. A. Schmutz, Alex Schorn, C. R. Seaborne, W. L. Shaw, H. W. Shermann, B. F. Smith, P. G. Smith, R. A. Stillings, E. D. Stoetzel, W. H. Swanson, M. J. Taylor, Edwin Timmerman, A. Van De Lerarchat, Martin W. Van De Laarschat, Lamber Van Roy, Wm. Verhagen, H. L. Voss, A. A. Wachs, Charlev L. Wagner, W. H. Webb, John Weidner, S. D. Wells, R. B. Wolf and R. J. Zaumeyer.

Indianapolis Demand Steady

[FROM OUR REGULAR CORRESPONDENT]

INDIANAPOLIS, Ind., February 2, 1942—The paper market in this section held steady last week with most grades in good demand and price changes only of a minor nature. Fine paper continued in demand as the larger printers reported more work being received. Local jobbers of fine papers are watching action of the state printing board, which is contemplating changing its rules for awarding printing contracts to distribute about $1,000,000 worth of work among more printers. In former years only a very few of the larger printing companies of the state received state contracts and as a result only a few of the larger jobbers were cut in on providing the paper. A change in the system of awarding state contracts will mean that not only more printers may secure work, but in all probability more fine paper jobbers may provide the paper. The contracts will be awarded within a month.

For the first time in a year, there has been some slight recession in the demand for building paper and roofing. Building in this section during the first four weeks of January showed a considerable decline from that of the same period a year ago with a consequent decline in building and roofing paper demand. However, demand still is at a high point and it is believed that before spring arrives the building volume, unless priorities have some effect, will be as high as it was the year before.

Newsprint continued active last week with lineage of the larger papers showing about the same as last year in spite of the fact that many articles are getting hard to receive. It is expected that this month will see a decline in lineage used particularly by the automobile and tire industry. Tissues moved well last week. Paper bags and wrapping paper are becoming scarce in this territory and every effort is being made to conserve present supplies.

Old rag demand appeared better last week, but prices were held at previous levels. The local warehouse stocks are not large.

TAPPI Notes

The New York State College of Forestry graduates in the paper industry will hold a luncheon during the TAPPI convention on Tuesday, February 17, 1942 at 12:30 P.M. in the South Room of the Commodore Hotel, New York, N. Y. Alumni may bring guests. Reservations should be made with R. T. Bingham, Titanium Pigment Company, 99 Hudson Street, New York, N. Y.

Paul Torre, formerly of the DeZurik Shower Company, is now chief chemist of the North American Pulp and Paper Company, Cheboygan, Mich.

E. A. Harper, formerly of the North Carolina Pulp Company, is now technical director of the Brunswick Pulp and Paper Company, Brunswick, Ga.

Thomas E. Dobbins, formerly of the Hamersley Manufacturing Company, is now chemist for the American Can Company, Maywood, Illinois.

Noel R. Phillips is now a chemist with the R. T. Vanderbilt Company, East Norwalk, Conn.

Sir Herbert Gepp, managing director of the Australian Paper Mills will be the principal speaker at the TAPPI Annual Luncheon at the Commodore Hotel, New York City, on February 19, 1942. He will talk on the future, if any, of economic man. The luncheon program will be featured also by the presentation of the TAPPI medal (the most distinctive honor conferred in the pulp and paper industry) to R. B. Wolf of the Weyerhaeuser Timber Company.

A. R. Johnson Jr. Enters Service

[FROM OUR REGULAR CORRESPONDENT]

BOSTON, Mass., February 2, 1942—Albin R. Johnson, Jr., one of the star salesmen of Tileston & Hollingsworth Company, has enlisted in the U. S. Army.

Obituary

Horace W. Davis

PITTSFIELD, Mass., February 2, 1942—Horace W. Davis, 58, president of the Eaton Paper Corporation of Pittsfield, died January 30 at Nassau, Bahamas, while on a honeymoon with his bride of two days, according to word received here.

He was born at Sharon, Pa., educated at Washington and Jefferson College, served as deputy attorney-general of Pennsylvania from 1915 to 1917, was president of the Finance and Trading Corp. of New York, and later was president of the Ansco Co., and helped organize the Ageansco Corp. of Binghamton, N. Y.

His bride is the former Miss Florence E. Pertsch of New York. Their marriage took place in Madison Avenue Presbyterian Church chapel Wednesday morning, January 28.

Mr. Davis was a trustee of Washington and Jefferson College and Berkshire County Savings Bank. He was a member of Downtown Club, New York; Pittsfield Country Club and Phi Delta Theta Fraternity.

S. Fahe Smith

S. Fahe Smith, 77, president of the S. Morgan Smith Company, York, Pa., died in his sleep January 19, 1942, at his winter home in Palm Beach, Fla.

Born in York County, Pa., September 10, 1864, Mr. Smith entered his father's business upon completing his education in 1883, and from 1896, when the business was incorporated as the S. Morgan Smith Company, serving as senior vice-president and a director until 1937, when he assumed the office of president, which he held until the time of his death.

Mr. Smith was active to the end, in excellent health, and possessed strength and vigor beyond his years. He was engaged actively in matters of policy and management, sharing with his associates the responsibility for the progressive development not only of water turbines and accessories, but also valves, pumps, and recently the designing and experimenting involved in the new Wind Turbine which is claiming the attention and interest of the power engineering world.

His interests were broad, reaching far into the civic, social and religious life of his community, as shown by his active, personal participation in the Historical Society, Public Library, Y.M.C.A., churches and other public agencies, and his 21 years as Trustee of the Moravian College and Theological Seminary in Bethlehem, Pa., from which institution he received a Degree of Doctor of Laws.

Daniel A. Smith

Daniel A. Smith, for over forty years prominent in the paper trade industry, and resident of Chevy Chase, Maryland, since 1905 died Sunday, January 25th, at his home, No. 2 Drummond Avenue, after a long illness.

Well known in paper trade circles, Mr. Smith organized and promoted the District of Columbia Paper Manufacturing Company, now operating as District of Columbia Paper Mills, with offices at Potomac and K Streets, Washington, D. C.

The company occupies the old paper mill property formerly owned and managed by the late George Hill of Georgetown.

Mr. Smith was General Manager of this company until his retirement in 1935 and at the time of his death was vice-president and a director.

Born in Pensacola Navy Yard, Pensacola, Florida, Mr. Smith was the son of the late Rear Admiral Daniel Angell Smith and Angie Davis Smith.

He is survived by his widow, Florence Langtry Smith.

Meyer Mazer

Meyer Mazer, of Deep River, Conn., and proprietor of the Middlesex Bag and Paper Company, Inc., of Middletown, Conn., died of pneumonia January 19 in Miami, Fla., where he was passing the winter. Besides his wife, he leaves seven daughters, and ten grandchildren.

Mr. Mazer organized the company he headed and built up a large business in Middlesex county and other parts of the state.

Must Report on Waste Materials

WASHINGTON, D. C., February 4, 1942—Seeking to obtain a complete picture of the distribution of waste fibrous materials, chiefly paper and rags, used in the manufacture of paperboard, roofing materials and other products, J. S. Knowlson, director of Industry Operations, today ordered all producers to file weekly reports covering receipts, consumption and production.

The reports must be filed each Monday, beginning February 2 with the Pulp and Paper Branch of the Division of Industry Operations, and must cover the weekly period ending 7 A.M. on the Saturday prior to each reporting date.

Mr. Knowlson sent copies of the reporting form (PD-240), calling for full details on receipts, consumption and inventory positions, to all individuals, corporations, partnerships, associations or other forms of business enterprise engaged in producing paper, paperboard, roofing materials, floor covering products, insulating materials or molded pulp products from waste fibrous materials.

In an accompanying letter, Mr. Knowlson pointed out that any person who falsifies any of the information demanded may be prohibited from receiving further deliveries of any materials subject to allocation or priority control.

WPB Standardization Plan

Programs for the simplification, standardization and reduction in basis weights of papers has been announced by Norbert A. McKenna, Chief of the Pulp and Paper Branch of the War Production Board. A letter accompanying the programs sent on January 30, requested manufacturers to inform the Pulp and Paper Branch if they found the programs objectionable in any way.

The letter stated that the programs were to be sent to all producers of the following kinds of paper and paper products: book papers for commercial advertising and printing, kraft wrapping paper, grocery bags and sacks, wrapping tissue, fine paper for commercial advertising and printing, blueprint and direct line papers, vegetable parchment, butchers' papers, and gummed sealing tape.

Manufacturers of the products enumerated who do not receive copies of the programs should write to Norbert A. McKenna, Chief, Pulp and Paper Branch, War Production Board, Washington, D. C.

CONSTRUCTION NEWS

Chicago, Ill. — The Container Corporation of America, Inc., 404 East North Water street, manufacturer of corrugated boxes and containers, etc., has taken out a permit for new addition to plant, consisting of a second story addition to present one-story structure. Cost reported over $25,000, with equipment. Construction contract has been awarded to the H. W. Todd Construction Company, 30 North LaSalle street, and work is being placed in progress. James B. Black, 520 North Michigan avenue, is engineer.

St. Paul, Minn.—The Waldorf Paper Products Company, Box Division, 2236 Myrtle avenue, manufacturer of corrugated boxes and containers, will install three new digesters and auxiliary equipment in connection with alterations and improvements in plant, recently referred to in these columns. Work on structural program is now under way. No estimate of cost announced. William M. Murphy & Son, New York Building, St. Paul, has the general contract.

Cincinnati, Ohio — Fire recently damaged a portion of plant of the United States Printing and Lithographing Company, Robertson avenue and Beech street, Norwood, manufacturer of folding paper cartons, display containers, etc., affecting portion of varnish division, said to be caused by an explosion in drying oven in that department, due to accumulated gas. No estimate of loss has been announced. The damage will be replaced.

Georgetown, S. C.—The Agar Box Company, a subsidiary of the International Paper Company, 220 East 42nd street, New York, N. Y., has superstructure under way for new corrugated box-manufacturing plant in vicinity of mill of the Southern Kraft Division of last noted company at Georgetown, previously mentioned in these columns, and will have the unit ready for production at early date.

Hogansville, Ga.—Stark Mills, Inc., a subsidiary of United States Rubber Company, 1230 Sixth avenue, New York, N. Y., has plans under way for new local mill for the manufacture of asbestos products under a special process. It will be one-story, reported to cost over $100,000, with machinery. It is proposed to begin work soon.

Los Angeles, Calif. — The Los Angeles Blue Print Company, 945 South Broadway, blue print and other processed papers, has approved plans for alterations and improvements in building at 1047 South Grand avenue, to be occupied for expansion. Work is reported to cost about $20,000. General contract has been awarded to S. N. Benjamin, 718 East Sixteenth street, Los Angeles. Field & Hoak, 2511 Wilshire boulevard, are architects.

Darlington, S. C. — The Individual Drinking Cup Company, 24th street and Dixie avenue, Easton, Pa., manufacturer of paper cups and kindred paper goods, is completing construction of new one-story factory branch, storage and distributing plant at Darlington, and will occupy at early date. New structure is reported to represent an investment of close to $35,000.

Long Island City, N. Y.—The Brite Corrugated Box Corporation, recently chartered with capital of 100 shares of stock, no par value, will take over and succeed to the Brite Corrugated Box Company, manufacturer of corrugated boxes and containers, with local plant at 51-12 Twenty-first street.

Rome, Ga.—The Tubize Chatillon Corporation, 2 Park avenue, New York, N. Y., manufacturer of viscose and acetate rayon products, has completed the erection of a new one-story addition, forming part of a general expansion program to be carried out at mill. Entire project is reported to cost close to $300,000, with initial building representing an investment of close to $100,000, including equipment. Other structures will be erected in near future, exact time still to be determined.

Franklin, Va.—The Taggart Corporation, 230 Park avenue, New York, N. Y., manufacturer of kraft paper products, heavy-duty multi-wall paper bags, etc., has work under way on new branch mill at Franklin, previously referred to in these columns, and it is proposed to have the structure ready for service late in the spring. It will be one-story type, with large converting department for production of heavy-duty paper bags for chemicals, food products and other service. Other departments will be provided for handling of raw material, with kraft paper stock to be secured from neighboring mill of Chesapeake-Camp Corporation; storage and distribution, and other operating service. Erection contract is being carried out by C. M. Guest & Sons, Anderson, S. C. Cost reported close to $500,000, with machinery. J. E. Sirrine & Company, 215 South Main street, Greenville, S. C., are architects and engineers. The Chesapeake-Camp Corporation, noted, will establish a separate division at mill for production of special stocks required for the new Taggart converting plant.

La Tuque, Que.—The Brown Corporation, Ltd., 71 St. Peter street, Quebec, Que., manufacturer of kraft and other paper stocks, has asked bids on general contract for proposed new one and multi-story additions to mill at La Tuque, recently mentioned in these columns, to be equipped for large increase in capacity in pulp and paper-making divisions. Erection contract will be awarded soon. Cost reported in excess of $600,000, including machinery. R. A. Rankin & Company, 1420 Sherbrooke street West, Montreal, Que., are engineers.

Woodstock, Ont.—Huddleston & Barney, Ltd., operating a lithographing plant for the manufacture of paper labels, wrappers and kindred paper goods, is considering plans for new one-story plant on local site, reported to cost about $45,000, including equipment. It is proposed to ask bids on general contract in near future.

Government Paper Bids

WASHINGTON, D. C., February 4, 1942—The Government Printing Office has received the following bids for 40,000 pounds of white M.F. book paper in 36 inch rolls: Mudge Paper Company, 6.52 cents; and Marquette Paper Company, 6.9 cents. For 40,000 pounds of same in 48 inch rolls: Mudge Paper Company, 6.52 cents; and Marquette Paper Company, 6.9 cents.

For 890,000 pounds of 25 x 38 offset book paper; Marquette Paper Company, (rolls), 6.65 cents and sheets, 7.15 cents; Mudge Paper Company, rolls, 8.9 cents and sheets, 9.4 cents; Whitaker Paper Company, rolls, 6.95 cents and sheets, 7.3 cents; Newton Falls Paper Mills, rolls, 6.75 cents and sheets, 7.15 cents.

For 16,050 pounds of 22 x 37 emulsified paper: Whitaker Paper Company, 11.68, 13.46, 11.58, 13.36, 11.44 and 13.21 cents; Stanford Paper Company, 11.29 cents; Paper Corp. of U. S., 12.75 cents; and Virginia Paper Company, 14.75 cents.

For 83,750 sheets of 22⅛ x 34½ white cloth lined cover paper; Stanford Paper Company, $113.98 per M sheets; Mudge Paper Company, $113.98; Barton, Duer & Koch Paper Company, $113.98; and Whitaker Paper Company, $113.98.

For 19,883 pounds of 31½ x 39 white sulphite manifold paper: Resolute Paper Company, 12.74 cents; Paper Corp. of U. S., 11.5 cents; and Mathers-Lamm Paper Company, 12.75 cents.

For 308,000 pounds of 42 x 58 poster paper: R. P. Andrews Paper Company, 7.5 cents; Marquette Paper Company, 7.65 cents; and Whitaker Paper Company, 8.3 cents.

For 48,000 pounds of 25% rag, 22 x 34 white bond paper: Whiting Paper Company, 14.50 cents; Barton, Duer & Koch Paper Company, 13.9 cents; Walker Goulard Plehn Company, 14.11 cents; Bradner Smith & Company, 13.95 cents; and Paper Corp. of U. S., 13.72 cents.

For 360,000 pounds of white sulphite writing paper: Whitaker Paper Company, 6.83 cents; Barton, Duer & Koch Paper Company, 6.97 cents; Northwest Paper Company, 7.03 cents; R. P. Andrews Paper Company, 6.79 cents; Cauthorne Paper Company, 7 cents; and Paper Corp. of U. S., 7.25 cents.

For 298,500 pounds of 35 x 45 machine coated book paper: Mead Sales Company, Inc., 7.272 cents; R. P. Andrews Paper Company, 7.13 cents; and Barton, Duer & Koch Paper Company, 6.75 cents.

For 120,000 pounds of 25 x 38 offset book paper: Baldwin Paper Company, Inc., 8.25 cents; Whitaker Paper Company, 7.65 cents; Paper Corp. of U. S., 7.62 cents; and Graham Paper Company, 7.95 and 7.8 cents.

Wrapping and Sealing Machine

The Maxson Automatic Machinery Company, Westerly, R. I., announces a wrapping and sealing machine to produce at the rate of 900 sealed packages per hour. The range of sizes is: ¾ to 5 inches thick, 8 to 8½ inches wide, and 10 to 14 inches long. The average saving is $1.55 in wrapper per thousand packages. Loss of moisture is greatly reduced. Wrapping time is reduced with the machine by about 90%.

In addition it is claimed to seal packages tightly without flaps folded over bottom or top.

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FINANCIAL NEWS

New York Stock Exchange

High, Low and Last for Week Ending February 4, 1942

	High	Low	Last
A. P. W.	1¼	1¼	1¼
Armstrong Cork Co.	25¾	25	25¾
Celotex Corp.	8	7¾	7¾
Celotex Corp., pf.	71	70	71
Certain-Teed Products Corp., pf.	28½	28	28
Champion Paper & Fibre Co.	16¾	16⅛	16¾
Champion Paper & Fibre Co., pf.	100	98	100
Congoleum-Nairn Co.	16	15⅝	16
Container Corp. of America	12⅜	12½	12½
Continental-Diamond Fibre Co.	8⅛	8	8
Crown-Zellerbach Co.	11⅞	11⅜	11⅝
Crown-Zellerbach Co., pf.	86¼	85	85
Flintkote Co.	10	9⅝	10
Robert Gair	2	2	2
Robert Gair, pf.	....	....	....
International Paper Co.	14⅞	14	14¼
International Paper Co., pf.	59¾	58⅜	59⅛
Johns-Manville Corp.	57	56¼	57
Johns-Manville Corp., pf.	123	122½	122½
Kimberly Clark Corp.	....	....	....
Mac Andrews & Forbes	22	21¾	22
Mac Andrews & Forbes, pf.	....	....	....
Masonite Corp.	26¼	26	26¼
Mead Corp.	7⅛	6½	7
Mead Corp., pf.	72	70	70½
Paraffine Companies, Inc.	25½	25⅜	25⅜
Paraffine Companies, Inc., pf.	....	....	....
Rayonier, Inc.	10¾	10⅝	10¾
Rayonier, Inc., pf.	26¾	25⅝	26¼
Ruberoid Co.	17	17	17
Scott Paper Co.	33	32¾	33
Scott Paper Co., pf.	114	114	114
Sutherland Paper Co.	18	17⅞	18
Union Bag & Paper Corp.	9⅛	8¾	9⅛
United Paperboard Co.	3½	3½	3½
U. S. Gypsum Co.	46⅞	46	46
U. S. Gypsum Co., pf.	170	170	170
West Virginia Pulp & Paper Co.	17⅞	17⅛	17⅛

New York Curb Exchange

High, Low and Last for the Week Ending February 4, 1942

	High	Low	Last
American Box Board Co.	3⅞	3⅞	3⅞
Brown Co., pf.	....	....	....
Great Northern Paper Co.	....	....	....
Hummel-Ross Fibre Corp.	4½	4½	4½
National Container Corp.	10⅛	10	10⅛
St. Regis Paper Co.	2½	2⅜	2½
St. Regis Paper Co., pf.	118½	115½	116
Taggart Corp.	3⅛	2⅜	3⅛

Puget Sound Profits Higher

Puget Sound Pulp and Timber Co.'s fourth quarter results exceeded those of any previous quarter and rounded out 1941 as the best year thus far in the Company's history, according to its preliminary report to stockholders.

Figures subject to year-end audit indicate net profit of $1,121,730 for 1941, after estimated Federal tax provisions of $2,001,379. In 1940 net profit was $795,553 after Federal tax provisions of $665,000. Net available to common stock in 1941 was $3.22 a share, compared with $2.40 a share in 1940.

Production of unbleached sulphite pulp was 143,038 tons in 1941, with average daily production of 398 tons, compared with 128,136 tons total and 368 tons daily average in 1940.

Net sales of $8,423,941 in 1941 compared with $6,022,583 in 1940. Operating profit amounting to $3,125,204 before tax provisions compared with $1,874,908 in 1940.

Abitibi Earns $9,900,414

[FROM OUR REGULAR CORRESPONDENT]

TORONTO, Ont., February 2, 1942—Abitibi Power and Paper Company, Ltd., reports earnings for December at $1,059,356, prior to audit and charges for depreciation and bond interest, compared with $1,114,431 in the preceding month and $547,263 in December, 1940. Included in December, 1941, earnings, is $201,909 received in United States exchange.

For twelve months ended December earnings on the above basis were $9,900,414, compared with $7,804,732 in 1940.

Shipments of newsprint and substitute products in December, according to G. T. Clarkson, receiver and manager, were 49,991 tons, compared with 49,607 tons in November and 30,568 tons in December, 1940.

Present indications are that shipments of newsprint and substitute products will be about 49,000 tons in January, 1942, compared with 26,141 tons in January, 1941.

Shipments of sulphite pulps in December amounted to 8,817 tons, compared with 8,313 tons in November and 6,014 tons in December, 1940.

Present indications are that shipments of sulphite pulps will be about 8,800 tons in January, compared with 5,454 tons in January, 1941.

Allied Paper Mills Elect Officers

KALAMAZOO, Mich., February 2, 1942—Stockholders and directors of the Allied Paper Mills held their annual meetings here last week, and reelected all directors and officers for another term.

Dwight R. Curtenius was continued as president, Fred C. Fischer as vice president and secretary, S. B. Monroe as treasurer, C. H. Reeves as vice president and C. B. Crossley as assistant secretary.

Directors retained are Messrs. Curtenius, Fischer, S. B. Monroe, Miss B. W. Hull, G. D. Cobb, A. B. Connable, L. H. Kirby, George E. Monroe, E. G. Read, Jr., Paul H. Todd, and H. L. VanderHorst.

Paraffine Earnings Up

Paraffine Companies, Inc., and subsidiaries, for the December quarter reports a net profit of $608,116, equal to $1.23 a common share, against $494,610, or 99 cents a common share, in preceding quarter and $282,077, or 54 cents a share, on common in December quarter of 1940. Six months to December 41: Net profit, $1,102,727, or $2.22 a common share, compared with $673,525, or $1.31 a common share, for 1940 period.

K.V.P. Reelects Officers

KALAMAZOO, Mich., February 2, 1942—Ralph A. Hayward, president, and other incumbent officers and directors of the Kalamazoo Vegetable Parchment Company, were re-elected at annual stockholders' meetings last week.

Officers who will continue through 1942, in addition to Mr. Hayward, are: First vice president, Alfred Southon; second vice president, H. H. Jones; third vice president, Joseph B. Kindleberger; treasurer, Charles S. Campbell; secretary and assistant treasurer, Thomas Peck, and assistant treasurer, W. R. Hess.

Directors are Jacob Kindleberger, re-elected chairman of the board; Hayward, Campbell, Southon, A. B. Connable, Dr. L. H. S. DeWitt, Frank Mossteller,

A. B. Read, C. H. Stearns, Charles J. Monroe, and S. B. Monrie. The last two were named during 1941 to fill vacancies on the board created by the deaths of W. E. Kidder and W. J. Lawrence.

Both Messrs. Hayward and Kindleberger described the company's position as "good," and said material supplies probably would bring some "problems" during 1942.

Crystal Tissue Co. Elects Officers

The board of directors of The Crystal Tissue Company, Middletown, Ohio, reelected the following officers at their meeting on January 27: President, E. E. Grant; vice president and general manager, L. J. Long; secretary-treasurer, E. A. Cahill; vice president in charge of manufacture, H. H. Harrison; vice president in charge of sales, V. Howard Larsen; assistant sales manager, John J. Cahill.

R. B. Robinson on Business Council

WASHINGTON, D. C., February 4, 1942—Reuben B. Robertson, executive vice president of the Champion Paper and Fibre Company, Canton, N. C., has been appointed a member of the Business Advisory Council of the Department of Commerce for 1942. Several other new members were appointed at the meeting here last week.

Corrugated Box Votes Dividend

TORONTO, Ont., February 2, 1942—A dividend of $1.75 a share has been declared on the 7% preference stock of Corrugated Paper Box Company, payable March 2, 1942, to shareholders of record February 16. Payment of this dividend will leave arrears unchanged at $14 this year.

Strathmore Nets $240,371

The Strathmore Paper Company at West Springfield reports greater sales for the 10 months ending last October 31 than for the full year of 1940. Net income for the 10 months was $240,371, against $261,871 for the full 1940 year. Net sales were $3,883,549, against $3,141,521 for 1940.

Consolidated Nets $1.93

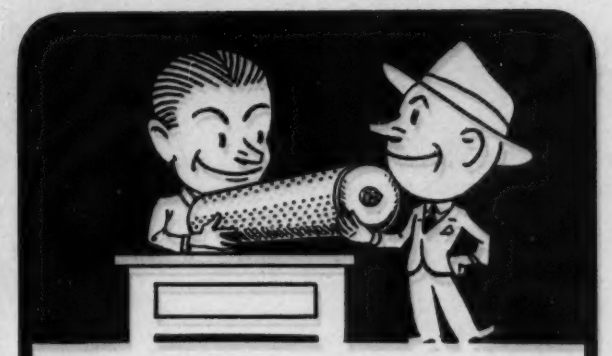
The Consolidated Paper Company for 1941 reports a net profit after $1,456,281 provision for Federal income and excess profits taxes of $1,448,754. This is equal to $1.93 each on 750,000 shares of $10 par stock and compares with $1,267,063, or $1.69 a share, in 1940.

Rhinelander Nets $3.49

The Rhinelander Paper Company for the year to September 30, reports a consolidated net income of $524,148, equal to $3.49 each on 150,000 shares, against $305,841 or $2.04 a share for the nine months to September 30, 1940.

Sutherland Earns $818,055

The Sutherland Paper Company for 1941 reports a net profit of $818,055, equal to $2.85 each on 287,000 shares, against $813,926 or $2.83 a share in 1940; net sales, $12,842,872 against $10,315,920.



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Henry J. Berger
EDITOR

Vol. 114 February 5, 1942 No. 6

COMING EVENTS IN PAPER INDUSTRY

AMERICAN PAPER AND PULP ASSOCIATION, Sixty-fifth Annual Convention and meeting, Waldorf-Astoria Hotel, New York, February 16-20.

TECHNICAL ASSOCIATION OF THE PULP AND PAPER INDUSTRY, Convention, Commodore Hotel, New York, February 16-19.

SALESMEN'S ASSOCIATION OF THE PAPER INDUSTRY, Annual Meeting and Luncheon, Waldorf-Astoria Hotel, New York, Tuesday, February 17.

NATIONAL PAPER TRADE ASSOCIATION OF THE UNITED STATES, Convention, Waldorf-Astoria Hotel, New York, February 16-19.

THE NEW YORK ASSOCIATION OF DEALERS IN PAPER MILLS' SUPPLIES, Annual Banquet, Commodore Hotel, New York, Tuesday, February 17.

NEW ENGLAND SECTION. Technical Association of the Pulp and Paper Industry—Third Friday of each month at the Roger Smith Hotel, Holyoke, Mass.

DELAWARE VALLEY SECTION. Technical Association of the Pulp and Paper Industry—First Friday of each month at the Engineers Club, Philadelphia, Pa.

LAKE STATES SECTION. Technical Association of the Pulp and Paper Industry—Second Tuesday of each month at the Conway Hotel, Appleton, Wis.

KALAMAZOO VALLEY SECTION. Technical Association of the Pulp and Paper Industry—First Thursday of each month at the Park, American Hotel, Kalamazoo, Mich.

ECONOMIC OUTLOOK

The close coordination of effort that is foreshadowed by the conferences at Washington between President Roosevelt and Prime Minister Churchill of Great Britain makes the experiences of Britain of vital significance to the American people, states *The Guaranty Survey*, issue January 26 by the Guaranty Trust Company of New York.

In commenting on the similarity of the economic systems of the two allied nations *The Survey* says in part: "Safe reliance upon British experience as a guide in directing our own war-time agencies and procedures is limited by obvious differences between the industrial organization of the United Kingdom and that of the United States and by other differing factors, such as the degree of dependence upon imports and vulnerability to air attack. Much more important, however, are the points of similarity in the political and economic systems of the two countries and in the conditions under which they must operate. These elements of likeness provide an essential basis for assumptions regarding possible uses in both countries of similar patterns for the organization and prosecution of the joint undertaking. . . . Restrictions that interfere with normal economic activity, it is indicated, have been broadly and willingly accepted. Some observers would welcome much more extensive application of the government's powers of coercion, but official policies continue to emphasize a preference for voluntary methods. This common characteristic of democratic political systems is the recognized basis of broad similarities of present procedures in this country and in Great Britain."

Referring to the huge and expanding war effort requested from time to time by President Roosevelt, *The Survey* points out that, "The war program for the coming fiscal year, according to the President, will require a total expenditure of more than one-half of the estimated national income. On the financial side, this means, according to the President's budget estimates and recommendations, that the Government will spend nearly sixty billion dollars and that the people will have to supply this amount by paying about twenty-five billions in taxes and buying about thirty-five billions in Treasury obligations. With several more billions added for the financing of governmental corporations, the total increase in the national debt during the year is estimated at forty billions. On the industrial side, the program implies a transfer, by one means or another, of roughly one-half of the nation's labor force and one-half of its productive facilities to war production. This is more than three times the proportion devoted to war purposes thus far, according to recent estimates. . . . The total amount of the requested appropriation is only a few billion dollars less than the entire cost of the first World War to the United States."

Directing attention to the organization of the War Production board on January 13 by executive order of the President, *The Survey* goes on to say that, "This substitution of centralized authority for the divided control that has existed hertofore is expected to result in a vast improvement in the efficiency of administration of the war effort. The centralization consists not only in the concentration of final authority in the head of the board but also in the fact that the new board will have full power to enforce its decisions over all other production and procurement agencies, a power not possessed by the Supply Priorities and Allocations Board. The executive order creating the new body, vested the major powers in the chairman, not in the board itself."

Another aspect of the new direction of war output briefly discussed in *The Survey*, was the body created to prevent strikes in essential industries, which comment states in part: "An emergency mechanism for the settlement of industrial disputes was set up by the President on January 12 through the creation of a National War Labor Board of twelve members, four each representing the public, employees and employers. The new body replaces the National Defense Mediation Board, which was abolished by the President's order. The procedure laid down for the adjustment of disputes under the new system requires that the parties to the controversy shall first resort to direct negotiations or to the procedures provided in a collective bargaining agreement. If the dispute is not settled by these methods, the commissioners of conciliation of the Department of Labor must be notified, unless they have already intervened. If the question is not promptly determined by conciliation, the Sec-

retary of Labor will certify the dispute to the new labor board. The latter may, however, after consultation with the Secretary of Labor, take jurisdiction on its own motion. After taking jurisdiction, the board will finally settle the dispute and for this purpose may use 'mediation, voluntary arbitration or arbitration under rules established by the board'. . . . The members will not participate in mediation, for the time being at least. Associate members will be appointed for this purpose, and the regular members will hold themself in reserve to handle cases that cannot be settled by mediation or voluntary arbitration."

Terming the business level well sustained, *The Survey* states that, "The level of business activity continues to show the conflicting effects of urgent war demands and high private purchasing power on the one hand and of severe restraining influences, intentional and unintentional, on the other. Industrial production as a whole has been maintained in large volume, although it has shown some signs of the seasonal influences that tend to cause curtailment at this time of the year. Retail trade registered less than the usual degree of expansion during the holiday period, probably because of the outbreak of war in the Pacific; but sales in recent weeks have been sustained at a level that reflects the large amount of purchasing power currently being released. The general trend of commodity prices has continued upward."

Production Ratio Report*

(Production as per cent of six-day capacity)

COMPARATIVE WEEKLY SUMMARIES

Current Weeks, 1942		Corresponding Weeks, 1941	
December 20, 1941	107.4	December 21, 1940	88.5
December 27, 1941 (Holiday Week)	80.0	December 28, 1940	61.4
January 3	102.8	January 4	86.8
January 10	103.2	January 11	87.1
January 17	103.9	January 18	86.3
January 24 (Prelim.)	*104.1*	January 25	87.4

COMPARATIVE MONTHLY SUMMARIES

Year	Jan.	Feb.	Mar.	Apr.	May	June	July
1940	89.1	84.7	82.3	84.3	90.0	92.1	85.3
1941	85.6	89.7	92.2	96.0	98.7	99.3	94.2

Year	Aug.	Sept.	Oct.	Nov.	Dec.	Year Avg.
1940	85.1	81.3	85.5	84.9	80.9	85.6
1941	101.0	99.6	105.2	106.0	*100.5*	*97.3*

COMPARATIVE YEARLY SUMMARIES

	1935	1936	1937	1938	1939	1940	1941	1942
Year to Date..	63.2	74.9	89.5	62.1	75.0	89.0	85.4	102.8
Year Average.	69.9	80.4	79.8	71.5	83.4	85.6	*97.3*	...

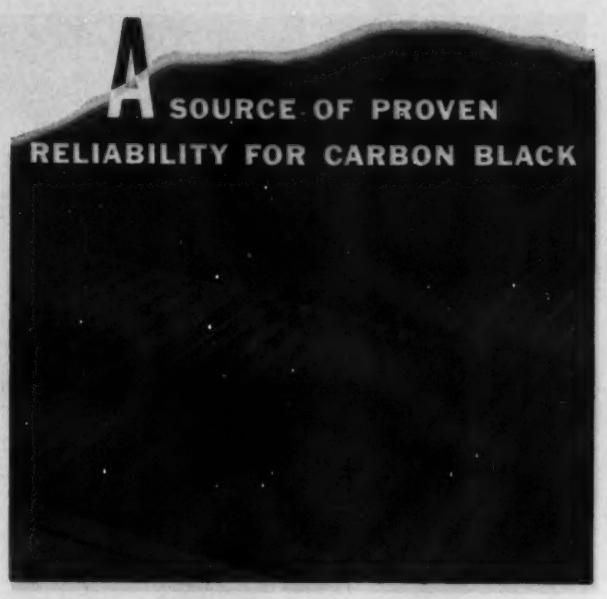
* Based on tonnage reported to American Paper and Pulp Association. Does not include mills reporting to National Paperboard Association, except in isolated cases where both paper and paperboard are produced and separate tonnage figures are not readily available. Does not include mills producing newsprint exclusively.

PAPERBOARD OPERATING RATIOS †

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Year Avg.
1936	62	67	67	70	69	70	69	75	78	82	80	74	72
1937	80	86	86	88	85	77	66	74	69	65	55	45	73
1938	54	60	61	57	58	56	57	66	66	70	65	59	61
1939	60	67	71	69	64	67	63	72	74	84	81	71	70
1940	71	70	69	70	76	79	72	74	72	79	77	71	73
1941	75	81	82	83	84	88	86	94	94	99	98	93	88

Week ending Dec. 20, 1941—101 Week ending Jan. 10, 1942—101
Week ending Dec. 27, 1941— 76 Week ending Jan. 17, 1942—102
Week ending Jan. 3, 1942— 86 Week ending Jan. 24, 1942—101

† Per cents of operation based on "Inch-Hours" reported to the National Paperboard Assn.



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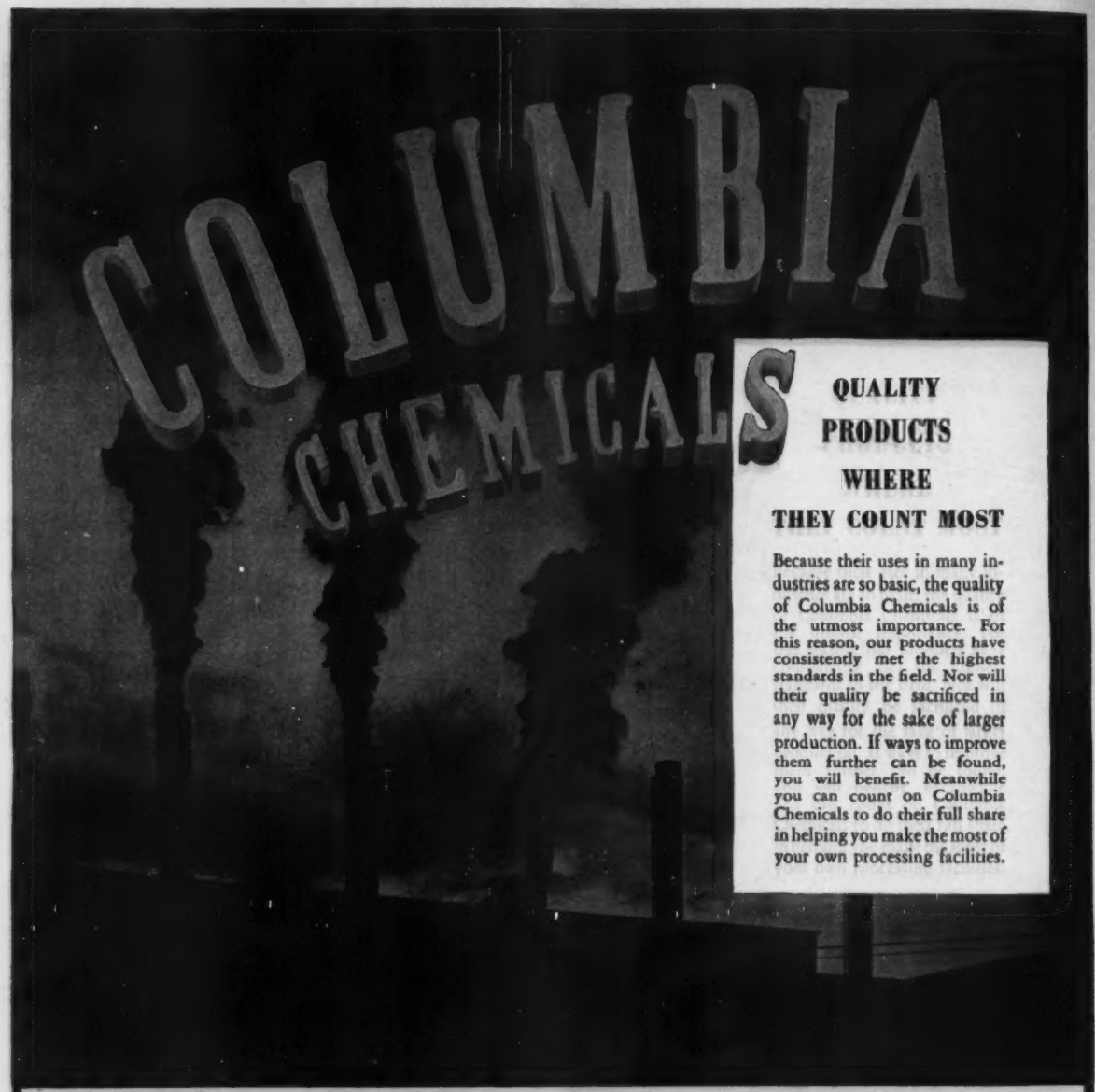

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Section of the
Technical Association of the Pulp and Paper Industry

Edited by Ronald G. Macdonald, Secretary

United States Patents on Papermaking

Fourth Quarter, 1941

Compiled by Clarence J. West, Chairman, Committee on Abstracts and Bibliography, TAPPI

The following list of patents has been compiled from the current numbers of the Official Gazette of the United States Patent Office. Because, as a rule, only one claim is published in the Gazette, it is not claimed that the list is complete; it is possible, also, that some patents have been included which do not apply to papermaking.

Copies of any of the following patents may be obtained from the U. S Patent Office, Washington, D. C., by sending ten cents for each patent desired. The number, name of the inventor and title of the patent should be given in the request. Personal checks or postage stamps are not accepted. Books of coupons may be purchased for two or ten dollars, good for 20 or 100 patents. Coupons orders do not have to be accompanied by letters of transmittal.

October 7, 1941

2,257,777. Machine for shaping and sealing filled paper bags. Helmer Anderson, assignor to General Mills, Inc., Minneapolis, Minn. Filed Sept. 13, 1939. 30 claims. (Cl. 93-6).

2,257,823. Method and apparatus for producing containers. John S. Stokes, assignor to Stokes and Smith Company, Summerdale, Pa. Filed Jan. 15, 1940. 18 claims. (Cl. 93-3). Method of making tubular sections.

2,257,829. Method and apparatus for forming windows in blanks for envelopes and other articles. Alfred Winkler and Max Dünnebier, Neuwied, Germany. Filed Dec. 7, 1937. 14 claims. (Cl. 93-61). Method of applying and welding patches to edges of window openings in the blanks by the application of heat.

2,258,013. Box lining forming and inserting machine. Emil G. Jurgens and Hazen K. Becker, assignors to Peters Machinery Co., Chicago, Ill. Filed Sept. 14, 1940. 3 claims. (Cl. 93-36.01). Machine for forming bag-shaped linings.

2,258,401. Treatment of waste liquids from pulp production and the like. John Phillips Badenhausen, Philadelphia, Pa. Filed Sept. 27, 1939. 11 claims. (Cl. 23-48). The waste liquor is evaporated by spraying into a moving stream of heated air, the residual material is burned in a furnace and a portion of the combustion heat is used for heating the stream of air.

2,258,428. Process of and apparatus for dividing a web. Lee R. Stalder, assignor to Certain-Teed Products Corporation, New York, N. Y. Filed July 16, 1940. 11 claims. (Cl. 164-28). A web severing mechanism.

2,258,434. Method of anchoring coatings. Allen Abrams, George W. Forcey, George J. Brabender and Winfred H. Graebner, assignors to Marathon Paper Mills Company, Rothschild, Wis. Filed Feb. 9, 1940. 7 claims. (Cl. 91-68). A method of anchoring thermoplastic coatings upon a sheet of vegetable parchment which comprises coating with rosin size and anchoring with a thermoplastic coating composition of wax and rubber miscible with said bonding material and compatible therewith.

2,258,467. Method and apparatus for the recovery of heat and chemicals from black liquor. Vincent P. Owens, assignor to Combustion Engineering Company, Inc., New York, N. Y. Filed Oct. 14, 1939. 2 claims. (Cl. 23-48). A self-sustaining method of recovering chemicals from black liquor, including methods of evaporation and combustion.

October 14, 1941

2,258,611. Container capping machine. John M. Hothersall, assignor to American Can Company, New York, N. Y. Filed March 21, 1940. 5 claims. (Cl. 93-55.1). Machine for applying an overcap to a container having a projecting edge.

2,258,628. Allan K. Smith, assignor to The Institute of Paper Chemistry, Appleton, Wis. Filed Dec. 30, 1936. 6 claims. (Cl. 92-21). Locust bean gum (between 0.5 and 5 per cent of the dry weight of the furnish) is used to increase the wet strength of paper, especially paper towels.

2,258,659. Method and device for coating sheet material. Arthur R. Mosler, Jr., assignor to Celanese Corporation of America, Cumberland, Md. Filed June 16, 1938. 11 claims. (Cl. 154-2). A method for deflecting a sheet at the nip from one of the rotating surfaces to the other by causing a blast of fluid to impinge on the sheet as it emerges from the nip.

2,258,741. Adhesive and method of preparing same. Charles H. Champion and Fred H. Denham, assignors to R. T. Vanderbilt Company, Incorporated, New York, N. Y. Filed Aug. 13, 1938. 6 claims. (Cl. 106-210). A method of treating an aqueous suspension of starch with an amylolytic enzyme to produce an adhesive.

2,258,808. Production of articles with viscous coatings. Robert W. Polley, assignor to Nashua Gummed and Coated Paper Company, Nashua, N. H. Filed July 24, 1940. 4 claims. (Cl. 164-17).

2,258,851. Manufacture of greaseproof material. Harry C. Fisher and Walter E. Sooy, assignors to The Gardner-Richardson Company, Middletown, Ohio. Filed Aug. 26, 1939. 13 claims. (Cl. 91-68). A board is coated with a lower flexible coating and then with a cellulose ester.

2,258,856. Attachment for paper drilling machines. James Edgar Lee and Freeman Barney, assignors to The Challenge Machinery Company, Grand Haven, Mich. Filed Nov. 8, 1939. 11 claims. (Cl. 164-86).

2,259,035. Rosin package. Charles Crum Gillican, assignor to The Glidden Company, Cleveland, Ohio. Filed Dec. 30, 1937. 3 claims. (Cl. 226-47). The inner wall of the carton carries a coating or impregnation of sodium silicate to minimize the absorption of the rosin.

2,259,239. George M. Brown and James E. Snyder, assignors to Wingfoot Corporation, Wilmington, Del. Filed Sept. 5, 1940. 2 claims. (Cl. 93-35).

2,259,256. Container making. Elov F. Maas and Crandall R. Kline, assignors to Wingfoot Corporation, Wilmington, Del. Filed Nov. 23, 1940. 4 claims. (Cl. 93-35.1). Process of sealing an inverted flanged cap of paper-like material into the end of a paper board cylinder.

2,259,302. Package making and filling machine. Harry L. Evans, assignor to United States Automatic Box Machinery Co., Inc., Roslindale, Mass. Filed March 28, 1939. 20 claims. (Cl. 93-3).

October 21, 1941

2,259,490. Adhesive composition. John E. Robinson, assignor to American Can Company, New York, N. Y. Filed July 10, 1937. 3 claims. (Cl. 260-27). A composition suitable for application to a fibrous surface at 300 deg. C. consists of 70 parts of polymerized vinyl acetate and 30 parts of dammar resin.

2,259,577. Machine for making inner-liner laminated tubes. Harry W. Morgan and Richard E. B. Wakefield, assignors to The Canister Company, Phillipsburg, N. J. Filed June 15, 1939. 22 claims. (Cl. 93-81).

2,259,584. Log barking machine. Edward V. Prentice, Portland, Ore. Filed Dec. 28, 1937. 2 claims. (Cl. 144-208). A power driven chain mounted on a float to feed the surface of a log to a cutter head.

2,259,746. Cellulose derivative film and coating. Lionel Elmer Goff and Stanley Lee Lopata, assignors to The Cellulose Research Corporation, East Alton, Ill. Filed Dec. 5, 1936. 4 claims. (Cl. 106-187). A solution of cellulose esters and ethers in a suitable solvent.

2,259,752. Method of manufacturing duplex bags. Louie C. Kimple, assignor to Dixie Wax Paper Company, Dallas, Texas. Filed Nov. 27, 1940. 4 claims. (Cl. 93-35).

2,259,859. Apparatus for making paper. Elzy Earl Covey, Niagara Falls, N. Y. Filed March 3, 1939. 1 claim. (Cl. 92-44). A wire cloth of much shorter length than that used at present is suggested, thus providing the formation of a web at a much more rapid rate.

2,259,866. Method of making containers. John S. Stokes, assignor to Stokes and Smith Company, Summerdale, Pa. Filed June 3, 1939. 12 claims. (Cl. 93-3).

2,259,878. Apparatus for making and securing bag handles. Roderick S. Clancy, Los Angeles, Calif. Filed April 10, 1940. 13 claims. (Cl. 93-1).

2,259,886. Method of forming containers and material therefor. Irving Gurwick, assignor to Shellmar Products Company, Mount Vernon, Ohio. Filed March 20, 1939. 4 claims. (Cl. 93-35). The container is made of regenerated cellulose with a thermoplastic adhesive.

2,259,959. Machine and method for making paper-wrapped pencils. Kay Miller, assignor to Joseph Dixon Crucible Company, Jersey City, N. J. Filed Dec. 12, 1940. 6 claims. (Cl. 93-81).

2,259,978. Condenser dielectric and method of preparing it. David A. McLean, assignor to Bell Telephone Laboratories, Incorporated, New York, N. Y. Filed Aug. 31, 1938. 3 claims. (Cl. 92-21). A paper dielectric is formed by incorporating an oxide of lead, silver or mercury into paper pulp, forming a paper sheet and impregnating with a chlorinated naphthalene or diphenyl; the paper may also be impregnated with a salt of a carbohydrate gum with lead, silver or mercury.

2,260,064. Method of making containers. John S. Stokes, assignor to Stokes and Smith Company, Philadelphia, Pa. Filed Aug. 16, 1939. 25 claims. (Cl. 93-3).

2,260,191. Machine and method for manufacturing bags. Howard H. Orr, assignor to The Jaite Company, Jaite, Ohio. Filed May 3, 1939. 10 claims. (Cl. 112-10). Machine for making bags from flat tubular bag-length stock.

2,260,198. Paper stock hydrator. Charles W. Smith, North Muskegon, Mich. Filed Feb. 21, 1936. 8 claims. (Cl. 92-24). A process and apparatus for feeding stock under pressure to consecutive revolving beater rolls and bedplates causing the stock to pass helically around and along the rolls.

2,260,225. Apparatus for manufacturing duplex bags. Louie C. Kimple, assignor to Dixie Wax Paper Company, Dallas, Texas. Filed May 5, 1939. 11 claims. (Cl. 93-8).

October 28, 1941

2,260,553. Press for printing spots of wax carbon on paper. Donald L. Boyd, assignor to Carb-O-Spot Corporation, Athens, Ohio. Filed March 6, 1940. 7 claims. (Cl. 101-122).

2,260,577. Method of making low density water resisting fibrous products. John O. Burton, assignor to Minnesota and Ontario Paper Company, International Falls, Minn. Filed March 20, 1939. 4 claims. (Cl. 92-21). A suspension of vegetable fibers in water is treated with waste alkaline liquors from a kraft cook and an acid to adjust the pH to 4-6 and insolubilize the colloids of the cooking liquor, the mixture aerated, thus producing a water-resistant distended fiber mass suitable for a structural unit.

2,260,640. Method of treating seeds rich in protein. Francis G. Rawling and Wright M. Welton, assignors to West Virginia Pulp and Paper Company, New York, N. Y. Filed Oct. 25, 1939. 9 claims. (Cl. 260-112). A method of concentrating the protein of soybean meal by treating with an acid gas (e.g., sulphur dioxide) in water at a pH of 4.8 or lower to remove coloring and other nonprotein materials.

2,260,940. Drier felt for paper machines. Edward H. Hall, Fitchburg, Mass. Filed April 27, 1939. 1 claim. (Cl. 139-412). A unitary woven fabric drier felt for papermaking machines having a closely woven face and a relatively openly woven back.

2,260,971. Process of making ion-exchanging preparations and product thereof. Paul C. Goetz, assignor to The Permutit Company, New York, N. Y. Filed Nov. 20, 1937. 9 claims. (Cl. 252-193). Among the products mentioned for ion-exchanging carbonaceous product for water purification is thickened sulphite waste liquor.

2,261,018. Machine for folding blanks. Fred H. Chapman, assignor to The International Paper Box Machine Company, Nashua, N. H. Filed Aug. 20, 1940. 9 claims. (Cl. 93-49).

2,261,091. Waterproofing composition. James Francis Maguire, assignor to Reichhold Chemicals, Inc., Detroit, Mich. 9 claims. (Cl. 106-230). A mixture of a waxy substance (paraffin, carnauba wax, candelilla wax, beeswax, montan wax, ozokerite, stearic acid or cetyl alcohol) and ester gum of a polyhydric alcohol (glycerol, ethylene glycol, sorbitol, mannitol, etc.) and polymeric rosin.

November 4, 1941

R21,935. Wood cellulose and method of producing same. Lionel Elmer Goff, Lyle Melvin Sheldon, Milton Lawrence Herzog and Fredrich Olsen, assignors to The Cellulose Research Corporation, East Alton, Ill. Original No. 2,187,710, dated Jan. 16, 1940. Application for reissue Aug. 14, 1941. 3 claims. (Cl. 260-229).

2,261,138. Mechanism for waxing cartons or the like. Adolph D. Bullerjahn, Milwaukee, Wis. Filed July 10, 1939. 4 claims. (Cl. 91-44). Machine for coating the angularly disposed surfaces of an object.

2,261,260. Coating composition and method of making the same. Charles E. Kraus, Sparks, Md. Filed April 22, 1939. 12 claims. (Cl. 106-84). An irreversible colloidal clay having high thioxotropic properties, a partly reversible colloidal clay having low thioxotropic properties, water-soluble sodium silicate, a pigment and an agglutinating agent.

2,261,313. Process for uniting materials of polymerized vinyl chloride with wood, leather, or the like. Kurt Thinius and Fritz Loblein, assignors to Walter H. Duisberg, New York, N. Y. Filed April 13, 1939. 4 claims. (Cl. 154-2). The method uses a very thin layer of polyvinyl chloride and a softener to unite the two surfaces.

2,261,315. Treatment of paper pulp. Kristen Andreas Thorsen, Grenoble, France. Filed Dec. 29, 1938. 4 claims. (Cl. 164-99). A machine for perforating a sheet of paper pulp to be fed into a disk tearing-up machine.

2,261,351. Label pasting machine and the like. Joseph Ettl, assignor to Potdevin Machine Company, Brooklyn, N. Y. Filed Jan. 4, 1940. 1 claim. (Cl. 91-58).

2,261,416. Method of making containers. Harold D. Schrier, Kalamazoo, Mich. Filed July 4, 1939. 6 claims. (Cl. 18-59). A method of coating a paperboard container with a cellulose material.

2,261,591. Bag making machine. Harvey Milton Rutter, assignor to Jason A. Haugh, Toronto, Ontario, Canada. Filed Jan. 29, 1940. 13 claims. (Cl. 93-18).

2.261,625. Manufacture of egg cartons. W. Bartlett Jones, assignor to Consolidated Carton, Inc., Chicago, Ill. Filed May 13, 1939. 16 claims. (Cl. 93-37). Method of cutting and scoring a sheet for the manufacture of collapsible cartons for eggs and the like.

2,261,638. Covering material and process of making same. Delbert S. Beach, assignor to Certain-Teed Products Corporation, New York, N. Y. Filed Jan. 21, 1938. 3 claims. (Cl. 91-68). A base sheet of felted fibrous material impregnated with asphalt and having on its surface a layer of asphalt, one of granular material and one of hydraulic cement.

2,261,730. Covering material. Harry A. Mitman, assignor to Certain-Teed Products Corporation, New York, N. Y. Filed Jan. 8, 1937. 4 claims. (Cl. 154-51). In part a method of laminating sheets with asphalt.

2,261,775. Apparatus for making insulating tape. Carl Mosier and John L. Mohun, Jr., assignors to Union Asbestos & Rubber Company, Chicago, Ill. Filed April 4, 1938. 5 claims. (Cl. 154-27).

2,261,782. Method of applying and drying adhesive. Edwin G. Staude, Minneapolis, Minn. Filed Oct. 16, 1939. 5 claims. (Cl. 91-68). A method of applying a wet adhesive and then a dry adhesive and working the dry into the wet adhesive.

2,261,784. Method of forming laminated products. Thomas D. Thompson, assignor to Stein, Hall & Company, Inc., New York, N. Y. Filed Oct. 25, 1938. 4 claims. (Cl. 154-40). The use of a soluble sodium silicate and ungelatinized starch in the proportion of one part of starch to 4 to 12 parts of silicate.

November 11, 1941

2,261,964. Composite coated sheet material. William R. Collings, assignor to The Dow Chemical Company, Midland, Mich. Filed Sept. 5, 1939. 11 claims. (Cl. 91-70). Paper is coated with a continuous film of a plasticized organic solvent soluble cellulose ether of thickness less than about 1 mil and then with a molten composition of thickness less than about 0.5 mil, from 60 to 100 per cent of which consists of from 5-20 per cent of an organic solvent soluble lower alkyl ether of cellulose (alkyl contains 2 to 5 carbon atoms), from 25 to 80 per cent of a non-hydrocarbon wax (true waxes, wax-like esters or alcohols) and from 5 to 30 per cent of a mineral wax and the remainder of a resin.

2,261,985. Fibrous tube. Albert E. Forster, assignor to Hercules Powder Company, Wilmington, Del. Filed Jan. 11, 1940. 6 claims. (Cl. 138-76). A tube of fibrous cellulosic material impregnated with materials selected from the group consisting of a substantially petroleum-hydrocarbon insoluble pine wood resin and reaction products of said resin with a semidrying oil.

2,261,995. Method of burning black liquor. John E. Greenawalt, Bronxville, N. Y. Filed July 8, 1938. 6 claims. (Cl. 23-48). Soda recovered by initiating combustion of the combustible constituents and completely finishing it and producing molten soda in a single definite and continuous step.

2,262,242. Containers. Frank J. Lenox, Jackson Heights, N. Y. Filed March 24, 1938. 3 claims. (Cl. 93-39.1). Method of winding a layer of oil and grease-resistant material helically on a mandrel.

2,262,275. Method and machine for making sanitary napkins. Charles A. Fourness and Charles J. Greiner, assignors to International Cellucotton Products Company, Chicago, Ill. Filed April 20, 1939. 9 claims. (Cl. 270-41).

2,262,292. Method of an apparatus for sealing pasteboard cans. Lester L. Ladd, Lockport, Ill. Filed Sept. 18, 1939. 15 claims. (Cl. 93-55.1).

2,262,303. Paper box machine. Edwin G. Staude, assignor to E. G. Staude Manufacturing Company, St. Paul, Minn. Filed Sept. 7, 1939. 13 claims. (Cl. 93-58.2).

2,262,420. Combustion and chemical recovery furnace and method of operating the same. John Phillips Badenhausen, assignor of one-half to Day and Zimmermann, Incorporated, Philadelphia, Pa. Filed Jan. 23, 1937. 9 claims. (Cl. 23-48). A furnace consisting of two chambers, method of spraying the waste liquor into the first chamber, method of supplying air to the chamber and method for combustion of fluids from the first chamber in the second.

2,262,634. Method of flameproofing combustible material. William W. Cobbs, assignor to Monsanto Chemical Company, St. Louis, Mo. Filed Aug. 25, 1938. 10 claims. (Cl. 91-68). An aqueous solution of an ammonium salt of an alkyl phosphoric acid, the alkyl group containing from 1 to 5 carbon atoms.

November 18, 1941

2,262,770. Sizing and finishing composition. Fred G. La Piana, assignor to Stein, Hall & Company, Inc., New York, N. Y. Filed April 1, 1941. 11 claims. (Cl. 260-6). Urea and an aqueous dispersion of a water-insoluble protein in aliphatic amines and quaternary ammonium base having a pH value of not less than 8 in dilute solution.

2,262,771. Sizing and finishing composition. Fred G. La Piana assignor to Stein, Hall & Company, Inc., New York, N. Y. Filed Jan. 3, 1940. 21 claims. (Cl. 260-6). Urea and an aqueous dispersion of a protein in an alkylolamine.

2,262,788. Apparatus for applying sheet material to boxes. Walter T. Bailey, assignor to Stokes and Stokes Company, Summerdale, Philadelphia, Pa. Filed Jan. 18, 1940. 31 claims. (Cl. 93-40).

2,262,809. Lubricant. Eugene Lieber, assignor to Standard Oil Development Company, Linden, N. J. Filed Oct. 12, 1938. 10 claims. (Cl. 252-57). The lubricant comprises a waxy lubricating oil and a condensation product of halogenated tall oil and a cyclic compound.

2,262,815. Waterproofing composition and process of producing same. Joseph P. Nothum and Francis J. Licata, assignors to National Oil Products Company, Harrison, N. J. Filed June 4, 1938. 13 claims. (Cl. 106-243). A solid consisting of an intimate mixture of a water-insoluble soap and mahogany soaps, which is soluble in hydrocarbon and halogenated hydrocarbon solvents.

2,262,822. Safety paper and the manufacture thereof. Francis L. Simons, assignor to George La Monte & Son, Nutley, N. J. Filed Sept. 28, 1938. 21 claims. (Cl. 91-67.95). Paper is treated with a water-soluble acid salt of an organic aryl amine adapted to react with a chlorine bleach to produce a stain and converting the substance to a water-insoluble form by neutralizing the acidity of the salt.

2,262,986. Photographic backing paper. Ernest L. Baxter, assignor to Eastman Kodak Company, Rochester, N. Y. Filed Nov. 2, 1940. 4 claims. (Cl. 95-9).

2,262,987. Roll film cartridge. Ernest L. Baxter, assignor to Eastman Kodak Company, Rochester, N. Y. Filed Nov. 19, 1940. 8 claims. (Cl. 95-9). The paper carries a layer of gelatin and an outer layer of zein.

2,263,200. Backing sheet for building insulating materials. Donald B. Wheeler and James D. Griffin, assignors to Union Bag & Paper Corporation, Hudson Falls, N. Y. Filed May 24, 1938. 7 claims. (Cl. 91-70) A flexible waterproof material having on the surface a ribbed coating of montan pitch and asphalt or stearin pitch.

2,263,201. Heat insulating means and method of making the same. Donald B. Wheeler and James D. Griffin, assignors to Union Bag & Paper Corporation, Hudson Falls, N. Y. Filed March 11, 1939. 11 claims. (Cl. 154-28). A batt of heat insulating material having a flexible waterproof sheet of cellulosic material adhered thereto by a ribbed heat sensitive adhesive compound, the other side of the sheet having a coating of a waterproofing substance of lower melting point than that of the adhesive.

2,263,439. Rolls for driers and the like. Edwin H. Hansen, assignor to Andrews and Goodrich, Inc., Dorchester, Mass. Filed May 23, 1941. 2 claims. (Cl. 34-240).

November 25, 1941

2,263,569. Machine for applying adhesives to strip material. Rouel R. Campbell, assignor to United Shoe Machinery Corporation, Borough of Flemington, N. J. Filed March 14, 1940. 16 claims. (Cl. 91-30).

2,263,575. Method of coating paper and product thereof. William M. Glenn, assignor to Glenn Davidson, Aurora, Ill. Filed Aug. 25, 1938. 11 claims. (Cl. 91-68). The paper is coated with an alkaline agent and starch and subsequently with an aqueous oilseed flour and mineral suspension.

2,263,576. Process of coating paper and product thereof. William M. Glenn, assignor to Glenn Davidson, Aurora, Ill. Filed June 14, 1939. 15 claims. (Cl. 91-68). A vegetable proteinous suspension of mineral filler is bonded to paper by applying a sizing containing no cellulose or vegetable proteinous material and subsequently applying the proteinous mineral filler on the sizing layer.

2,263,888. Pulp thickening and washing apparatus. Johan Christoffer Fredrik Carl Richter, assignor to Aktiebolaget Kamyr, Oslo, Norway. Filed Oct. 8, 1937. 1 claim. (Cl. 210-199). A circular screen dehydrating apparatus comprising a stuff box, a screen cylinder in the box and a dandy roll.

2,263,903. Apparatus for the extraction of cellulosic fibers from vegetable material. Umberto Pomilio, assignor to Pomilio Corporation, Limited, London, England. Filed July 16, 1937. 3 claims. (Cl. 92-7). A series of chambers and towers for carrying out the extraction with alkali and the reaction with chlorine.

2,263,938. Light sensitive measuring instrument. Douglas L. West, assignor to Howard Smith Paper Mills Limited, Montreal, Quebec, Canada. Filed Aug. 31, 1940. 10 claims. (Cl. 88-14). Method of measuring the light reflected from a sample of pulp or paper.

2,264,168. Vacuum producing apparatus for paper making machines. Ernest Poirier, Waterville, Maine. Filed May 6, 1937. 12 claims. (Cl. 92-51). A suction box divided into several compartments and so arranged that the number utilized at any time to carry off the water will automatically change with changed in the volume of water discharged by the box.

2,264,169. Vacuum producing apparatus for paper making machines. Ernest Poirier, Waterville, Maine. Filed April 6, 1938. 8 claims. (Cl. 92-51). The water extracted by the suction box creates a working vacuum of an intensity de-

pending chiefly on the character of the paper being made and the volume of water so extracted and constantly maintaining a yielding throttling action on the discharge of water from the box.

2,264,189. Resinous felted fibrous composition. Herman W. Richter and Harold R. Gillette, assignors to Federal Electric Company, Inc., Chicago, Ill. Filed Aug. 29, 1940. 10 claims. (Cl. 92-21). The binder is a residue low in abietic acid obtained in the purification of rosin obtained by solvent extraction of pinewood.

December 2, 1941

2,264,305. Method and apparatus for reinforcing webs of paper and the like. George E. Gibbs, assignor to American Reenforced Paper Company, Attleboro, Mass. Filed April 1, 1937. 6 claims. (Cl. 154-1). Method of reinforcing webs of materials of different selected widths by forming reinforcing fibers into a sheet of a given width and cutting and doffing portions onto the web.

2,264,316. Coating composition comprising cellulose ethers. Toivo A. Kauppi and Earle L. Kropscott, assignors to The Dow Chemical Company, Midland, Mich. Filed March 30, 1938. 6 claims. (Cl. 260-16). The composition consists of a water-insoluble cellulose alkyl ether (alkyl group with 1 to 4 carbon atoms), a wax, a plasticizer, a mineral wax, and a rosin modified alkyd resin.

2,264,421. Wood chip cleaning process. Arthur T. Ward, New York, N. Y. Filed Aug. 12, 1939. 4 claims. (Cl. 83-75). The dry chips are passed along a reciprocable table provided with riffles and subjected to jets of air to pneumatically remove objectionable light and heavy materials from the good chips.

2,264,494. Method and apparatus for wax lamination. Arthur M. Wickwire, Jr., assignor to Champlain Corporation, New York, N. Y. Filed Feb. 16, 1939. 4 claims. (Cl. 154-40). A method of regulating the thickness of the wax coating on two sheets of paper and laminating the waxed sheets.

2,264,522. Method and apparatus for producing laminated sheets. William F. Grupe, assignor to Champlain Corporation, New York, N. Y. Filed Jan. 31, 1938. 5 claims. (Cl. 154-37). Method of producing decorated and laminated webs by associating two webs each of which has markings on one side.

2,264,542. Finishing and conditioning of paper. Alvin E. Montgomery, assignor to J. O. Ross Engineering Corporation, New York, N. Y. Filed May 27, 1938. 8 claims. (Cl. 92-68). Paper is cooled to 75 deg. F. by cold air of high humidity and then contacting it with air heated to 95 deg. F. and a humidity of approximately 90 per cent.

2,264,550. Bag making machine. Adolph Potdevin, assignor to Potdevin Machine Company, Brooklyn, N. Y. Filed Feb. 9, 1939. 8 claims. (Cl. 93-8).

2,264,632. Adhesive applying device. Harry E. Gerlitzki, assignor to Armstrong Cork Company, Lancaster, Pa. Filed Feb. 14, 1939. 6 claims. (Cl. 91-43).

2,264,941. Slice construction for papermaking machines. William R. Kellett and Huron C. Brien, assignors to Paper Patents Company, Neenah, Wis. Filed March 10, 1939. 5 claims. (Cl. 92-44). A substantially vertical thin flexible steel slice and a plurality of independently operable laterally spaced devices for locally flexing the projecting portion of the slice in the machine direction.

2,265,058. Folding machine. Hermann Clare, assignor to "Promag" Progressa Maschinen A. G., Konolfingen, Switzerland. Filed March 5, 1941. 3 claims. (Cl. 270-81).

2,265,074. End sleeve for strengthening core sleeves for paper rolls. Boris Kirilo, assignor to A. Ahlström Osakayhtiö, Warkaus, Finland. Filed May 27, 1940. 2 claims. (Cl. 242-68).

2,265,075. Method of making bags. Paul Kuetter, assignor to Thomas M. Royal & Company, Philadelphia, Pa. Filed Aug. 7, 1940. 1 claim. (Cl. 93-35).

December 9, 1941

2,265,144. Adhesive. Edward F. Christopher and Frank L. De Beukelaer, Chicago, Ill. Filed Dec. 24, 1938. 5 claims. (Cl. 106-125). Glue and a reagent selected from the group consisting of urea, biuret and about equal amounts of urea and calcium nitrate.

2,265,158. Method for recovering by-products from pulp waste liquor. Edward G. Goodell, Stevens Point, Wis. Filed July 3, 1939. 3 claims. (Cl. 202-22). A method of destructively distilling the dried residue from waste pulp liquors.

2,265,455. Method and apparatus for making paper sheets. Ralph J. Serpas, Minneapolis, Minn. Filed Feb. 4, 1937. 7 claims. (Cl. 92-39). A travelling screen and a series of travelling spraying members moving in the same direction, the spraying units applying a layer of pulp onto the screen.

2,265,522. Method for impregnating wrapping materials. Adalbert Farkas, Latrobe, Pa. Filed Feb. 24, 1939. 5 claims. (Cl. 91-70). A method of mixing vaporized diphenyl and an inert gaseous medium and projecting the mixture onto the wrapping material to be used for preserving citrus fruits.

2,265,563. Laminated cellulose products. Arnold Kirkpatrick, assignor to Monsanto Chemical Company, St. Louis, Mo. Filed June 2, 1937. 13 claims. (Cl. 106-40). A molding material containing a termoplastic lignin resin admixed with an aromatic acid or acid anhydride.

2,265,566. Method for conditioning paper. Theodore Makarius, Flushing, N. Y. Filed July 22, 1940. 2 claims. (Cl. 34-18). A pile of paper sheets, before being fed to a printing press, is subjected to radiant heat and jets of unheated air under pressure against the marginal portions of the uppermost sheets, thereby creating air spaces between the sheets and giving access to the heat.

2,265,609. Apparatus for and method of making wrappers with opening tapes. Michael J. Milmoe and Elmer D. Sramek, assignors to F. B. Redington Co., Chicago, Ill. Filed March 23, 1938. 22 claims. (Cl. 93-1).

2,265,622. Method and apparatus for disintegrating fibrous materials. Hermann Basler, Leutkirch, Allgau, Germany. Filed June 13, 1938. 3 claims. (Cl. 92-6). A method of grinding steamed material; the product is suitable for the manufacture of sheets used in constructional work and for insulating purposes.

2,265,636. Bag forming apparatus. Lewis B. Eaton, assignor to Pneumatic Scale Corporation, Limited, Quincy, Mass. Filed Nov. 16, 1939. 8 claims. (Cl. 93-12). Apparatus for producing a tea or similar bag.

2,265,659. Method of making decalcomania stamps. Arthur August Wittnebel, assignor to American Bank Note Company, New York, N. Y. Filed May 3, 1938. 1 claim. (Cl. 41-33).

2,265,894. Paper folding machine. Constantine A. Caldes, Milltown, N. J. Filed March 22, 1940. 3 claims. (Cl. 270-94).

2,265,936. Apparatus for treating paper stock. Edwin Cowles, assignor to The Cowles Company, Princeton, N. J. Filed March 18, 1940. 11 claims. (Cl. 259-96). A method of refining stock.

December 16, 1941

2,266,054. Apparatus for sealing containers. Roy E. Lowry and Edgerton A. Throckmorton, assignors to Container Corporation of America, Chicago, Ill. Filed Sept. 23, 1939. 3 claims. (Cl. 93-6).

2,266,159. Moisture vapor proof paper lacquer. Edmond H. Bucy, assignor to Atlas Powder Company, Wilmington, Del. Filed Dec. 15, 1938. 18 claims. (Cl. 260-737). Fusible resin and a wax are melted together and this mixture and a halogenated rubber and a plastic are dissolved in a suitable organic solvent.

2,266,265. Manufacture of resinous condensation products from amide-like compounds and purified lignin-sulphonic acids. Alfred Rieche, Walter Rudolph, and Richard Klar, assignors to I. G. Farbenindustrie Aktiengesellschaft, Frankfort-on-the-Main, Germany. Filed Feb. 8, 1939. 7 claims. (Cl. 260-70). Urea, thiourea, an urethane, biuret, a guanidine, melamine, cyanuric acid, etc., is condensed with lignosulphonic acid or its salts and an aldehyde, such as formaldehyde or furfural.

2,266,362. Apparatus for feeding and severing webs of paper or similar thin materials. Leslie Gordon Forster, assignor to Molins Machine Company, Limited, Deptford, London, England. Filed Nov. 2, 1939. 4 claims. (Cl. 271-2.3).

2,266,393. Paper drill. Harold J. Hoffman, assignor to The Smead Manufacturing Company, Inc., Hastings, Minn. Filed Oct. 14, 1940. 2 claims. (Cl. 164-124).

2,266,459. Folding and fixing of composite blanks. Alfred G. Gilbert, assignor to Reece Folding Machine Company, East Cambridge, Mass. Filed March 20, 1940. 1 Claim. (Cl. 154-42).

2,266,489. Gypsum board drying method. Thomas P. Camp, assignor to United States Gypsum Company, Chicago, Ill. Filed July 22, 1938. 1 claim. (Cl. 34-22). The board is passed through high temperature gases containing a low percentage of water vapor and then through another drying zone with a high percentage of water vapor.

December 23, 1941

2,266,761. Fibrous sheet. Patrick T. Jackson, Jr., and Elmer T. Anderson, assignors to American Reenforced Paper Company, Attleboro, Mass. Filed April 16, 1940. 6 claims. (Cl. 154-46).

2,266,905. Bag. Adolph Potdevin, assignor to Potdevin Machine Company, Brooklyn, N. Y. Filed Jan. 12, 1939. 3 claims. (Cl. 229-55). Method of making multiwalled bags.

2,266,946. Bag folding mechanism. Charles F. Allison, assignor to American Bag Closing Machine Company, Chicago, Ill. Filed Aug. 28, 1939. 27 claims. (Cl. 93-6).

2,266,948. Machine for and method for making containers. Cesare Barbieri, assignor to Dixie-Vortex Company, Chicago, Ill. Filed June 6, 1940. 25 claims. (Cl. 93-39.3).

2,266,958. Perforated web. Wesley S. Corbin, assignor to Scott Paper Company, Chester, Pa. Filed April 1, 1939. 4 claims. (Cl. 206-58). A paper having two contiguous, laterally offset and separately formed rows of V-shaped incisions jointly defining one edge of a separable section of the web.

2,266,990. Sanitary toilet seat cover. Pamela F. Rea, Calument City, Ill. Filed Sept. 29, 1939. 9 claims. (Cl. 93-1). Paper cover is used.

2,267,087. Manufacture of cellulose. Henry Dreyfus, London, England. Filed May 12, 1938. 2 claims. (Cl. 92-13). Wood is heated at 120-165 deg. C. with a 2-5 per cent solution of sodium hydroxide (alkali equivalent to 40-45 per cent of the weight of the wood), the concentration of the alkali is increased to 7-15 per cent by evaporation of water and the temperature is increased to 160-165 deg. C.

2,267,310. Soap package. Walter V. Shearer and Garrison Householder, assignors to The Plastic Coating Corporation, Holyoke, Mass. Filed Jan. 5, 1938. 6 claims. (Cl. 252-93). The wrapping material is coated on one side with a moisture-, acid- and alkali-resistant coating of vinyl resin.

2,267,316. Pressed fibrous product and process. Wesley R. Thompson and William E. Flood, assignors to Catalin Corporation of America. Filed Oct. 6, 1939. 7 claims. (Cl. 91-70). The impregnating agent is a phenol-formaldehyde resin produced with an alkaline catalyst and, after neutralization of the alkali, treated with 1-8 per cent of phosphoric acid; the impregnated product is heated to remove water and form a rigid infusible cellular mass.

2,267,390. Resinous compositions and laminated articles produced therewith. George Alexander, assignor to General Electric Company, Pittsfield, Mass. Filed July 10, 1937. 10 claims. (Cl. 154-46). A heat-curable resinous composition adapted for making a punch stock varnish consists of the condensation product of the higher phenols with formaldehyde in the presence of ethylenediamine and ammonia and an oil such as Chinawood oil.

2,267,470. Method and means for coating paper. Fred Kabela and George F. Whiting, assignors to Lowe Paper Company, Ridgefield, N. J. Filed Feb. 16, 1938. 2 claims. (Cl. 91-55). In producing a glossy-surfaced coating on paper, the gloss-forming solution is applied, covered with a band of preformed flexible foil material, drying the coating, and removing the foil.

December 30, 1941

2,267,746. Method of making container bodies. Nicholas Pelosi, assignor to American Can Company, New York, N. Y. Filed Aug. 22, 1940. 3 claims. (Cl. 93-39.1).

2,267,913. Fibrous article of manufacture and method of making the same. Ralph T. Halstead, assignor to Johns-Manville Corporation, New York, N. Y. Filed May 11, 1938. 6 claims. (Cl. 106-104). Asbestos fibers and a bonding agent.

2,268,092. Treatment of regenerated cellulose. Ralph J. Quaid, assignor to E. I. du Pont de Nemours & Company, Wilmington, Del. Filed May 6, 1939. 6 claims. (Cl. 260-212). The solution viscosity of regenerated cellulose is reduced by treatment with dilute nitric acid at 20-100 deg. C.

2,268,112. Rosin size. Arthur C. Dreshfield, assignor to Hercules Powder Company, Wilmington, Del. Filed June 30, 1939. 6 claims. (Cl. 106-173). An aqueous dispersion comprising a rosin size consisting of about 65-92 per cent by weight of free rosin and 8-35 per cent of rosin soap, a protective colloid and an agent selected from corn syrup, glycerol, ethylene glycol, etc., which render the dispersion stable to coagulation upon repeated freezing at —15 to —23 deg. F. for 16 hours.

2,268,215. Treatment of starch. Ralph Waldo Kerr, assignor to Corn Products Refining Company, New York, N. Y. Filed Jan. 22, 1940. 1 claim. (Cl. 127-33). Starch is treated with calcium peroxide at 46-52 deg. C. for 24-48 hours.

2,268,283. Bag or box making machine. Samuel A. Harris, Thomas H. Nifong and Ralph T. Stewart, assignors to Briggs-Shaffner Company, Winston-Salem, N. C. Filed July 5, 1939. 42 claims. (Cl. 93-12).

2,268,474. Manufacturing wrapper blanks. John Walker Chalmers, assignor to Moline Machine Company Limited, Deptford, London, England. Filed Dec. 5, 1940. 9 claims. (Cl. 93-1).

2,268,521. Thickness measuring device. Evan George Wilson and Kenneth Lethbrudge Wilson, Blundellsands, near Liverpool, England. Filed Jan. 29, 1938. 12 claims. (Cl. 33-148).

Graphic Arts Committee Report—1941*

By M. S. Kantrowitz,[1] Chairman

The report covering the work of the Graphic Arts Committee of the Technical Association of the Pulp and Paper Industry for the year 1941 is herewith submitted.

Status of Current Projects

The subcommittee on Testing Methods, under the chairmanship of W. F. Talbot, whose function it is to develop methods for more definitely correlating the physical characteristics of paper with printing quality has been active during the year. Three such methods, namely, Surface Bonding Strength, Printing Opacity, and Porosity or Resistance to Air Flow, have been promulgated for comment among the membership of the subcommittee on testing methods and of the Graphic Arts Committee.

Surface Bonding Strength

Surface bonding strength or resistance to picking is an important printing quality demanded of paper, especially of coated paper and of uncoated paper when tacky inks are used. Paper is said to pick when the coating, the fibers, or small portions of the paper itself separate from the body of the sheet while it is being printed. Pick occurs in printing upon coated papers whenever the adhesion forces of the ink for the coating is greater than that of the coating for the paper, or because there is insufficient bonding strength in the fibers of the base stock to prevent the sheet from splitting. Picking uncovers white spots in the printed image and these are especially noticeable in solid printed areas. The particles lifted from the sheet may lodge on the printing plate or be carried back into the ink fountain by the inking system of the press. If there is much picking, it necessitates frequent washups of the plates and rollers and sometimes even of the ink fountain. Picking also clogs the type and halftones and results in mussy printing.

Printing Opacity

Most printing demands of paper a high degree of opacity, especially when both sides of the sheet are to be printed with halftones, or when large areas of dark solids are printed on the reverse side of the sheet.

Technically, opacity is expressed either in terms of contrast ratio or transmitted light. In the printing sense, opacity depends upon conditions under which the printed sheet is normally observed. Printing opacity approaches most nearly to ideal conditions when the printed page overlying other printed pages is most clearly legible. Contrast opacity and printing opacity are both ratios of light reflection to light absorption obtained by means of a galvanometric scale actuated by a photoelectric cell. These methods of measurement differ only in the manner in which the paper is backed. In the measurement of contrast ratio the paper is backed successively by a disk of white magnesium carbonate reflecting light rays and by a black velvet lined tube absorbing light rays. The quotient of the absorption value divided by the reflection values is known as the contrast ratio. In the measurement of printing opacity, instead of the magnesium carbonate block, a number of sheets of the paper sample are used, the number being such that the addition of more sheets will not alter the reading. The reading thus obtained is divided by that obtained when a single sheet of the sample is backed by the totally absorbing black body, and this ratio is known as printing opacity.

Porosity or Resistance to Air Flow

Porosity is the property of a sheet which allows the passage of air when a pressure difference exists across the faces of the specimen. It is dependent upon the air voids and their distribution, number, size, shape, and orientation. It is measured by determining the rate of flow of air through a specimen of given dimensions with certain pressure differential under standard conditions of temperature and relative humidity. The more readily air passes through the sheet the greater the porosity.

Porosity is a factor in the quality of printing papers. For example, in the offset process, porosity controls to some extent the spreading of the ink under the pressure of the rubber blanket.

Other methods which are now being studied by this Subcommittee are Oil Penetration, Oil Absorption, and Smoothness of Paper. Dr. Talbot will present a progress report on the development of these methods and the work of the subcommittee at the annual meeting of TAPPI.

Subcommittee on Bibliography

The work of the subcommittee on Bibliography under the chairmanship of R. H. Simmons whose function it is to prepare bibliographies on paper and ink and their relation to printing has not sufficiently progressed to warrant a report at this time.

Covering Power of Printing Ink

The work on covering power of printing ink was assigned to Mr. Van Antwerp. The research was conducted in the laboratories of Sinclair and Valentine Company by George Cramer. A careful study of paper surfaces, paper absorbencies, and paper ink receptivity was made in order to establish the factors involved in developing an ink coverage chart to be used by the lithographic industry for the various types of coated and uncoated paper stocks. In an article prepared for presentation at the Annual Meeting, in February, 1942, Dr. Cramer will endeavor to show that there is a close relationship between ink coverage and the various paper characteristics.

Other current projects for investigation are:

1. Research on Effect of Humidity and Temperature upon (a) Paper, (b) ink, (c) press rollers, (d) printing processes.
2. Correlation of Laboratory Tests with Printing Quality of Paper.

The Chairman has arranged several technical papers pertaining to the Graphic Arts for presentation at the Annual Meeting, which it is hoped will be of special interest to the members of TAPPI.

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* To be presented at the Annual Meeting of the Technical Association of the Pulp & Paper Industry, Hotel Commodore, New York, N. Y., Feb. 16-19, 1942.

[1] Member TAPPI; Technical Director, U. S. Government Printing Office, Washington, D. C.

A Ply-Bonding-Strength Test for Paper and Paperboard*

By J. F. Halladay[1] and A. T. Luey[2]

Abstract

A test is presented which measures the force required to rupture the surface of paper or paperboard. The stresses and strains developed in this test are similar to those encountered in printing operations. The technique of preparing the test samples, equipment used, and the experimental deviation to be expected is described.

In most methods of printing, stresses and strains are produced in the paper or paperboard due to the tacky properties of the inks used. Whether the sheet is printed by a flat or curved plate, the forces within the paper or paperboard are resultants of forces acting in a direction perpendicular to the plane of the sheet being printed. The successful completion of an esthetically satisfactory printing impression depends upon a number of factors which are not germane to this discussion such as ink film thickness, viscosity of the film, printing speed, etc. However, this paper is concerned only with the surface strength of the material being printed.

Numerous efforts have been made to evaluate the tendency of fibrous materials to separate because of stresses applied normal to their surfaces during printing. Sutermeister and Porter *(1)* dealt with this problem in 1930 and Kirkpatrick *(2)* in 1939. Sutermeister and Osgood *(3)* recently presented a method of testing this property but were unable to give specifications on the adhesive material used in obtaining the test results.

This paper will deal with a method of preparing samples and a testing procedure which can be used in a normal mill. The method entails the use only of easily obtainable materials and apparatus which are well known throughout the paper industry.

A complaint was received from a customer which showed that certain skids of paperboard in one shipment gave varying results with regard to ply separation in the customer's plant. Investigation disclosed that this customer was printing the paperboard in question on a fast lithographic two-color offset press running at approximately 3500 impressions per hour. Investigation disclosed that the first two colors of a four-color process illustration were being printed on the press yellow first down, peacock blue second down. Further observation in the customer's plant showed that Skid C ran through the press in the normal manner without any difficulty whatsoever. Skid F could not be lithographed without portions of the coating and top liner of the board tearing from the surface of the sheet and adhering to the surface of the rubber offset press blanket. Fifty sheets of Skid C were allowed to remain in the pressroom atmosphere, spread out so that equilibrium with the surrounding air would be reached. The same procedure was followed with sheets taken from Skid F. After sufficient time had elapsed to reach equilibrium, sheets from Skid C and sheets from Skid F were fed into the press. First, the fifty sheets from Skid C were fed through the press and then were immeddiately followed, without stopping the press, by the sheets from Skid F. All of the sheets from Skid C were printed without any difficulty whatsoever. Less than eight of the sheets from Skid F were run through the press before sufficient coating and top liner had been torn from the surface of the sheets as to make it impossible to proceed with the printing impressions.

Both lots of sheets, properly marked for identification, were then returned to the laboratory where careful tests were made for: 1. Caliper; 2. Basis weight; 3. Smoothness; 4. Oil absorption (by the K&N test ink method); 5. Critical wax tests (made with Dennison waxes).

No significant variations between the tests from Skids C and F were noticed in any of these tests. It was obvious, however, that the sheets had not performed similarly as regards ply strength under the controlled conditions of printing. This indicated the need for a new test which would correlate with conditions encountered in actual printing of the sheets. It was recognized that the results from the use of the critical wax test were most greatly influenced by the ratio between casein and clay in the coating. In fact, it had been thought for some time that a high percentage of casein against clay in the coating could produce high critical wax tests, thus avoiding ply separation during printing. Actually, analysis of past experience showed that this expedient had resulted in no appreciable decrease in difficulties arising from ply separation and had been harmful to the smooth laying down of ink films so essential to high-quality printing. Further investigation of these difficulties showed that all were involved with ply separation in the fibrous components of the paperboard rather than in the coating. From these facts it was concluded that (from the processor's viewpoint) a test which would measure quantitatively the amount of force required to rupture the weakest component of the sheet was of more importance than other tests which tended to measure the adhesive force between the sheet and the ink film.

The Apparatus and Test Methods

Accordingly, the apparatus shown in Fig. 1 was designed and built. This apparatus is operated essentially as follows: Test sample is clamped in place at *A*. Dennison wax no. 20 is fastened to sample (area of contact limited by 0.5-inch washer) in a vertical position and attached to *C*, a lever arm. *D* is a funnel full of shot which empties into the container *E*, which is also fastened to the lever arm. As the shot fills the container, the force on the lever arm gradually increases until a rupture of the test speci-

* To be presented at the Annual Meeting of the Technical Association of the Pulp & Paper Industry, Hotel Commodore, New York, N. Y., Feb. 16-19, 1942.

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[2] Member TAPPI; Asst. Director, American Coating Mills, Inc., Elkhart, Indiana.

men occurs releasing the shutter *F*, which automatically cuts off the flow of shot. Then the force required to produce the rupture can be calculated from the weight of the container and the moments of forces on the lever arm.

Laboratory Apparatus

Numerous samples taken from Skids C and F, aforementioned, were then tested on this crude apparatus. In all cases those taken from Skid C gave results approximating 5 pounds of force required for rupture. (It will be remembered that Skid C gave satisfactory performance in customer's plant.) Samples taken from Skid F produced results quite consistently averaging 2.5 pounds total force for rupture. For a period of two months the apparatus (Fig. 1) was used for laboratory investigation of various difficulties encountered in connection with ply separation. While results proved dependable, the apparatus was inconvenient and time consuming. For this reason, an apparatus was built to be used in conjunction with a Thwing-Albert tensile tester. See Figs. 2 and 3. The guide bars *A* and *B* maintain the wax in a vertical position. Clamp ring *C* can be elevated while the test specimen is put in place and it is held firmly against the bottom support *D* by two springs *E* and *F*. The rod extending from the wax *G* is bent to form a hook on the end *H*, which engages a hook on the lever arm of the tensile tester when the instrument is operated. Slot *S* in the clamp ring permits the passage of the rod when the ring is in an elevated position, as shown in Fig. 3. This is necessary to permit the insertion of sample with wax attached into the instrument. A washer, *W*, of 0.010-inch thick steel and 0.5 inch inside diameter limits the area of contact between the wax and sample.

Preparation of Sample

For use in the apparatus described above, a 2-inch square sample is most suitable. First, the metal washer is placed on the center of the sample. The molten no. 20 Dennison wax is then applied *vertically* to the center of the washer with a gentle pressure. It is necessary that the entire area of the exposed

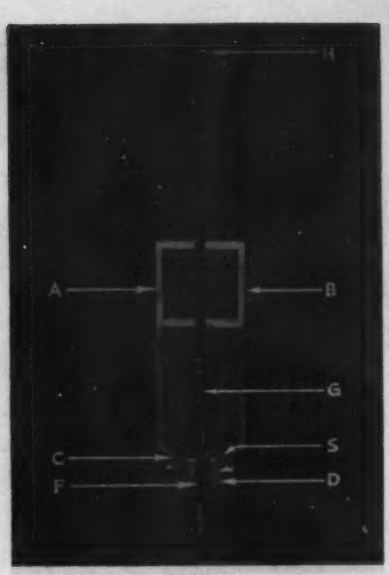

Fig. 2

sample contact the wax and it also is necessary that the wax is not forced under the washer. Disregard of the three foregoing limitations will produce erroneous results.

Test

After the sample and wax have cooled (5 to 10 minutes), the assembled unit of rod, wax, and test sample is placed in the apparatus and clamped in place. The test is then run in the same manner as a tensile test.

Results

The test results may be expressed in pounds per circumferential inch of wax disk required to produce a rupture. In the apparatus described, the washer limiting contact of the wax to the paperboard had a diameter of 0.5 inch or a circumference of 1.57 inches. Thus, if the instrument recorded a force of

Fig. 1

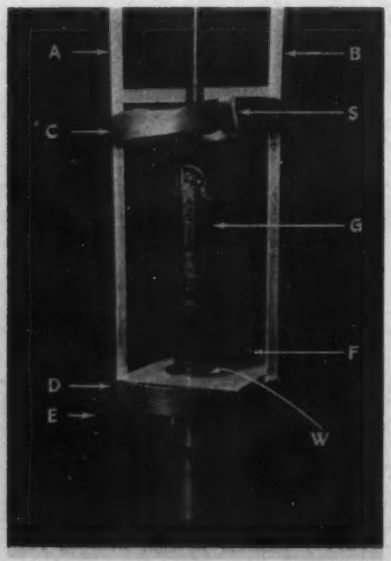

Fig. 3

5 pounds necessary to produce the rupture, the final test result is: 5 ÷ 1.57 = 3.18 p.s.i.

This would appear to be valid between diameters of wax adhesion from 0.375 to 0.625 inch.

Evaluation of Accuracy of Test

A determination of the accuracy of the instrument was made by testing three samples of coated paperboard and two samples of coated paper, using three different sizes of washers. The results are given in Table I. Therefore, the average deviation is 4.72 ÷ 45 = 0.105 p.s.i. (45 tests). Since the average test made was 3.95 + 4.23 + 4.09 + 2.82 + 2.56 ÷ 5 = 3.53 the average deviation is 0.105 × 100 ÷ 3.53 = 2.97%. In other words, when an individual test is made, we may expect it to vary from the true value on an average of 2.97%.

Equation of Curve

From these data it will be noted that there is a linear relationship between the force required for the rupture and the diameter of the washer used. Subsequent tests with a 0.75-inch washer indicate that the relationship between rupture force and circumference does not continue to be linear when diameters larger than 0.625 inch are tested. This indicates that

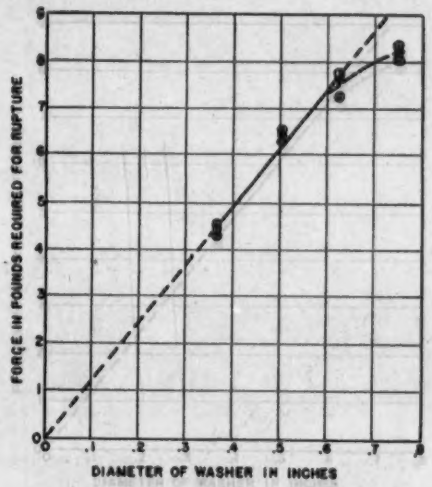

FIG. 4
Liner Pull Test for Sample A

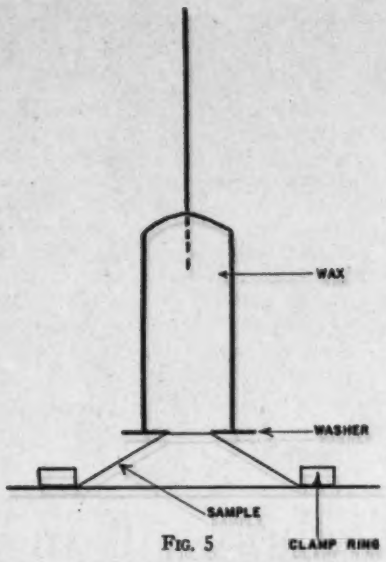

FIG. 5

the area of contact between the wax and sample does effect the force required for a rupture and that the force required is equal to a function of the first power of the diameter minus a function of the second power of the diameter of the washer used (*see* Fig. 4). However, when the diameter is small, its square becomes negligible and, therefore, in operating ranges $F = aD$, in which F is the force per lineal inch required to produce a rupture, a is a constant depending on the board being tested, and D is the diameter of the washer used.

The relation between force and circumference can perhaps be best explained by the diagram, Fig. 5. This is an extremely exaggerated picture of the condition of the sample just before the rupture occurs, and it would appear obvious that the rupture would start at the periphery of contact between the wax and board. Observations of tests made have shown that when the rupture occurs, it takes place in a fraction of a second and, therefore, the force required to start the rupture is all that is necessary.

Evaluation of Test

The essential value of this test is its ability to locate the weakest portion of a paperboard's structure, and

TABLE I

	Liner Pull Test			Pounds per Circumferential Inch				Deviation from Average			Total of Deviations	
Washer Size/inch	3/8	1/2	5/8	3/8	1/2	5/8	Ave.	3/8	1/2	5/8	Sub	Grand
A	4.50	6.35	7.90	3.82	4.04	4.04	...	.13	.09	.09	...	...
0.016 Clay	4.55	6.32	7.75	3.87	4.03	3.96	...	.08	.08	.01	...	...
Coated Board	4.60	6.45	7.30	3.91	4.12	3.72	...	.04	.17	.13	...	...
Ave.	4.55	6.37	7.65	3.87	4.06	3.91	3.95	T .25	.34	.23	0.82	...
B	5.15	6.53	8.09	4.38	4.16	4.13	...	.15	.07	.10	...	...
0.018 Clay	5.15	6.55	7.78	4.38	4.17	3.96	...	.15	.06	.17	...	...
Coated Board	5.05	6.72	8.42	4.29	4.28	4.29	...	.06	.05	.06	...	...
Ave.	5.12	6.60	8.09	4.35	4.20	4.13	4.23	T .36	.18	.33	0.87	...
C	4.75	6.75	7.78	4.04	4.30	3.96	...	.05	.21	.13	...	...
0.020 Clay	4.85	6.50	7.95	4.12	4.14	4.05	...	.03	.05	.04	...	...
Coated Board	5.10	6.15	7.85	4.34	3.92	4.00	...	.25	.17	.09	...	...
Ave.	4.90	6.47	7.86	4.17	4.12	4.00	4.09	T .33	.43	.26	1.02	...
D	3.10	4.81	5.55	2.63	3.06	2.83	...	.19	.24	.01	...	...
0.003 Clay	3.10	4.65	5.50	2.63	2.96	2.80	...	.19	.14	.02	...	...
Coated Paper	3.10	4.81	5.40	2.63	3.06	2.75	...	.19	.24	.07	...	...
Ave.	3.10	4.76	5.48	2.63	3.03	2.79	2.82	T .57	.62	.10	1.29	...
E	2.90	4.20	4.85	2.47	2.67	2.47	...	.09	.11	.09	...	...
0.003 Clay	2.90	4.25	5.05	2.47	2.72	2.57	...	.09	.12	.01	...	...
Coated Paper	2.90	4.20	5.00	2.47	2.67	2.55	...	.09	.11	.01	...	...
Ave.	2.90	4.23	4.97	2.47	2.69	2.53	2.56	T .27	.34	.11	.072	4.72

to measure the force required to produce rupture at this point. If the coating parts from the paperboard with little or no disturbance of the fibers, then, obviously, it is the coating formula which must be altered to produce a stronger bond between the stock and the coating materials in order to obtain a higher test. Likewise, if the rupture occurs in the stock, then the furnish, preparation, or formation must be changed to produce a higher test. And it can be readily seen that in this last case, no alteration in the coating formula will remedy the weakness in the paperboard.

Tests made on samples of paperboard returned to us by various printing houses show that a minimum strength of 2.5 pounds per lineal inch is required for normal letter press printing. For gloss inks and overprint varnish, a minimum of 2.75 pounds per lineal inch is necessary. We have no similar figures to offer for coated papers.

A practical application of this test over a period of eleven months has proven highly satisfactory. It is realized that the test, as now used, applies a force to the test sample which is essentially static in character whereas the forces applied in actual printing are more likely to be dynamic. It is thought, therefore, that an effort to use a somewhat similar testing method but involving measurement in kinetic units (such as the Thwing-Elmendorf tear tester) might enhance the value of the data obtained.

Acknowledgement

The writers wish to acknowledge the guidance and encouragement of B. M. Thomas, Plant Manager, American Coating Mills, Inc., Elkhart, Indiana.

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Developments in Vocational Training, 1941*

By W. L. Cassiday [1]

During the year of 1941 the principal concern of the vocational training agencies, both public and private, has been the training of workers for industries engaged in war production work and for the replacement of men in civilian goods industries who have left to accept more lucrative war goods jobs, or who have been called to serve in the armed forces of our country. This training has been primarily in machine shop practice and other metal trades. The National Defense Training Program inaugurated in July, 1940, by the Federal Government and supervised by the State Boards for Vocational Education was continued. One of the objectives of this program was the training of all capable unemployed men, either by elementary or refresher courses, to fill important jobs in war industries, while at the same time reducing our welfare rolls. Still other courses offered only to those already employed on war jobs trained them for advancement to higher paid and more highly skilled jobs.

Pulp and paper mills, especially those located in or near large industrial centers, continued to lose workers to the war industries. These workers were of two general classes: skilled or semiskilled workers from the maintenance department, such as machinists, welders, electricians, and millwrights; and unskilled laborers that had been in the employ of the mill for relatively short periods. Skilled workers in the various operating departments of the mill have, almost without exception, failed to be attracted by war jobs. Most of these men have worked for the mill for many years, have valuable seniority rights to protect, and have become well established in the community as home owners. With the entry of the United States into the war, however, it is quite likely that a number of the younger men of this group will be drafted into the armed forces. Consequently, there will undoubtedly be an additional need for vocational training in preparing men to replace those called to serve if the industry is to continue to meet the increased production demands placed upon it by war requirements.

Recognizing a definite shortage of skilled and semiskilled tradesmen in Canada, the Canadian International Paper and Affiliated Companies requested the coperation of the International Correspondence Schools in formulating and arranging a training program to relieve this codition. Since its inception, some 1000 employees have taken advantage of the training facilities of this program. Instruction is provided in machine shop work, blacksmithing, pipe fitting, welding, millwrighting, tinsmithing, electrical work, and steam plant work. The necessary theoretical training is gained through home study which is carried out simultaneously with practical shop instruction in the mill shops.

The Holyoke, Mass., public schools in cooperation with the American Writing Paper Corporation has begun an educational experiment designed to train high school seniors for jobs in the industry. Under this plan several boys are working part time, afternoons and Saturday mornings, in the office, laboratory, and mills of the corporation, and are being paid while they learn. It is expected that girls specializing in office work will be included in the plan and will work part time in the mill office.

The vocational training literature review for the last quarter of 1940 and the first three quarters of 1941 is as follows:

"Intensive Training of Industrial Employees." *Pulp Paper Mag. Can.* 42, no. 1:16-20, 37-8 (Jan., 1941).

Cassiday, W. L. "Training Pulp and Paper Workers. *Paper Mill* 64, no. 11:14 (March 15, 1941).

Defietux, O. T. Vocational Instruction at Camas. *Paper Trade J.* 111, no. 24:29-31 (Dec. 12, 1490); Tech. Assoc. Papers 24:565-567 (June, 1941).

Phillips, G. W. Employee Training. *Southern Pulp Paper J.* 3, no. 11:13, 18 (April, 1941).

Stephenson, J. N. "Training for the Pulp and Paper Industry, *Pulp Paper Mag. Can.* 42, no. 2:134, 138 (Feb., 1941).

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Yates, D. C. A Planned Career in the Paper Industry. Part 2. *Pulp Paper Mag. Can.* 42, no. 10:610, 612-13 (Sept., 1941).

* To be presented at the Annual Meeting of the Technical Association of the Pulp and Paper Industry, Hotel Commodore, New York, N. Y., Feb. 16-19, 1942.

[1] Member TAPPI; Chairman of TAPPI Vocational Training Committee; Pulp and Paper Instructor, Port Huron, Mich.

What Is Tack?*

By Henry Green[1]

Abstract

A careful analysis of tack has been made from the inkman's point of view. A new instrument called the tackmeter has been constructed on the basis of this analysis. It is shown that tack is equivalent to pull resistance for liquids and is equivalent to pull resistance in excess of the yield value for plastics. Both the adhesion and cohesion are ruled out as direct causes of this pull resistance. The equation for tack is found to be

$$Tack = \frac{\pi R^4 \mu}{D^2 t} + Cf$$

Where f *is the yield value,* μ *the plastic viscosity,* R *the radius of the contact area,* D *the initial film thickness,* t *the time of break, and* C *a proportionality constant depending on* D *and* R.

In attempting to answer such a question as *What* is Tack? the most natural reaction is to consult the dictionary. Upon further reflection, however, it will be observed that the question, as it stands, is perhaps too broad to be of definite use to any one individual. For the present occasion an analysis of the term "tack" will be confined to its meaning as employed by the manufacturer and user of printing inks. This restriction makes possible a second approach to the subject, namely by asking the ink user himself what he means by "tack".

Webster's new International Dictionary, 1938, defines *tack* as follows: quality of stickiness or adhering; adhesiveness; stickiness as of paint and of printing ink." This definition will for the moment be referred to as definition 1. Using the same dictionary for the definitions of stickiness and adhesiveness which terms occur in definition 1, it will be found that "stickiness" is not defined but simply stated to be a noun. Since this noun is related to its adjective "sticky", which is defined as "having the quality of adhering", it appears that stickiness is simply: something that has the quality of adhering. This is definition 2. It can be found in similar manner that the term "adhesiveness" used in definition 1 depends on the word "adhesive" which in turn depends on the word "sticky". Substituting the definition of these words in the term adhesiveness and then this final product into definition 1 gives the following:

> Tack: Quality of something that has the quality of adhering; the quality of having the quality of adhering; something that has the quality of adhering as of paint and of printing ink.

If this jargon has any meaning it certainly signifies that from the viewpoint of the expert lexicographer "tack" and "the quality of adhering" are one and the same thing.

Another School of Thought

There is apparently another school of thought that associates tack with the forces of cohesion. Underwood and Sullivan in 1915 described tack as "that property of cohesion between particles of ink that can best be described as the pulling power of the ink against another surface." Bekk in 1938 stated that very thin films of ink are split by abrupt rupture, implying that work must be done in such cases against the force of cohesion. Certainly there can be no disputing the point that both adhesion and cohesion enter the picture for obviously an ink that possessed neither of these attributes would be a thing too unreal to be measured one way or another. The picture obtained, however, is decidedly confusing and requires careful judgment backed by considerable experimental data before any logical conclusion in regard to the ultimate nature of tack can be drawn.

Factors other than adhesion and cohesion also have been mentioned such as "pulling power", by Underwood and Sullivan; resistance to pulling force by Bekk; resistance to flow or shear by Reed; and viscosity and yield value by both Bekk and Reed. In the American Hankbook of Printing, E. G. Gress in 1907 stated that picking is due to the *pull* of the ink. He makes no mention, however, of tack.

Going to Original Source

In view of the uncorrelated nature of the facts presented so far it would seem wisest in seeking information to go directly to the original source where the concept of tack first became associated with inks. This means questioning the so-called practical man —the man who manufactures or uses inks. When this individual first stated that an ink was either too tacky or insufficiently tacky, his judgment was probably based on some simple test where at the moment the word "tack" seemed sufficiently descriptive for his purpose. It is exceedingly doubtful that he consulted the dictionary in the matter, and if he did not, then the dictionary is not necessarily the final authority on the term "tack" as used by the ink man. The next step, then, would be to ask the practical man what he means by "tack". This seems like such a natural and obvious procedure that, if carried out, the answer should be forthcoming immediately and our task would be accomplished. Unfortunately, the practical man's conception of tack is essentially instinctive; he cannot analyze his ideas in regard to it in a manner that is of much real assistance to the scientific investigator. He can and does make it emphatic, however, that as far as he is concerned tack and the finger tapout test are one and the same thing. Therefore if it is desired to define tack and to discover what it ultimately depends upon from the ink manufacturer's and consumers' point of view it is necessary to take the inkman's simple test for tack (which in his mind is synonomous with tack) and make a logical and scientific analysis of it.

The Finger Test

The simple test used by all inkmen is the finger test, sometimes called the patout and sometimes the tapout test. Just when it was first introduced into the ink and printing industries is quite impossible to say. There is an interesting comment, however, by J. Luther Ringwolt made in 1871 and appearing in page 218 of the American Encyclopedia of Printing.

* To be presented at the Annual Meeting of the Technical Association of the Pulp & Paper Industry, Hotel Commodore, New York, N. Y., Feb. 16-19, 1942.

[1] Research Laboratories, Interchemical Corporation, New York, N. Y.

In discussing printing inks he says: "If, on the extraction of a small portion from a mass, it leaves but a short thread suspended, it is considered good, but the best test of its consistency is the adhesion it shows upon *pressing the finger against a quantity of it*". While no definition of tack is given in this encyclopedia the same author states on page 219 that, "ordinary news work requires a better quality, more *tacky* and finely ground". This is one of the earliest references to tack in the literature. It is interesting to note that both tack and a finger test are mentioned in the same article.

The present form of the finger test is too well known to users of printing inks to necessitate a detailed description here. The ink is rubbed out with the finger on paper or on a nonporous plate until a suitable film thickness is attained. The fingertip is pressed into this film and then drawn away suddenly. The magnitude of the pulling resistance as felt with the fingertip gives a mental impression of the degree of tackiness. An inkman's definition of tack, then, at once becomes possible. Tack is pull resistance. There is nothing particularly original about this definition. It has been approached or at least hinted at in devious ways many times in the literature. The only claim that can be made for it is that, if accepted, it automatically eliminates all other types of definitions.

Two Facts Revealed

An examination of this test reveals two facts the importance of which cannot be overemphasized. First, the ink continues to adhere to both surfaces—i.e., to the paper or plate and to the fingertip—after the finger has been withdrawn. This adherence is complete; there are no bare areas from which the ink has been stripped. Such adherence will be found complete whether the tack is of high or of low order of magnitude. If the force of adherence could be measured, it probably would be found to be entirely independent of the magnitude of the tack. Even a comparatively nontacky material like water can adhere tenaciously to a surface which is wet by it. This adherence can be so great that either heat or vacuum treatment becomes necessary in order to remove it completely. Adherence involves a surface to surface contact—the ink surface against the paper or fingertip surface. It does not involve such misconceptions as the possible adherence of the finger to the paper for these surfaces are always separated by a thin but nevertheless finite film thickness of ink and so they are never truly in contact with each other. It should now be evident that in spite of the dictionary the "quality to adhere" can be used neither as the inkman's definition of tack nor as a quantitative measurement of it. Only if the ink is actually stripped bare from one of the surfaces as the finger is raised would work be done against the force of adhesion and the "quality to adhere" could then be used as a measurement of tack.

In the International Critical Tables, J. H. Hildebrand gives the cohesive strength (internal pressure) of a dozen nonpolar organic liquids. This list contains such substances as carbon tetrachloride, toluene, and benzene. The range of cohesive strengths vary from about 3000 to 6000 atmospheres. The strengths of toluene and benzene are about 4000 atmospheres. If the strengths of inks are of this same order then a bar of ink 1 square inch in cross section would take a force of 60,000 pounds to break it, provided, of course, that the bar did not flow or neck down.

If thin ink films, such as exist between the printing plate and the paper, are split by abrupt rupture instead of necking down, then work would be done against the cohesive strength of the ink. If the dot area of an inked halftone plate covered, say, 50% of the total printed area and the film divided by rupture then a vertical pulling force of 30,000 p.s.i. would have been exerted on the paper. Obviously, the paper could not withstand such a force; surface picking or complete destruction of the stock would invariably occur. Since such a state of destruction does not universally exist in printing practice the conclusion is that the ink necks down to minute cross sectional areas before breaking. The force required for this final rupturing is not, however, the tack or pull resistance of the ink. If the finger tapout test is examined closely it will be noticed that the ink actually necks down in innumerable spots under the finger tip. It will also be observed that the maximum force is exerted at the beginning of the upward stroke of the finger and not at the end where the threads of ink are ruptured. The work done directly against the force of cohesion in rupturing these threads is, therefore, probably exceedingly small.

Plastic Viscosity and Yield Value

This last point is important: the space existing between the pressed down finger tip and the paper is of capillary dimensions. As the finger is raised ink must flow in this minute film space in such a manner so that it can neck down at many points. In order to do this, work must be done against the flow resisting properties of the ink. There are two such properties; the one is the reciprocal of the mobility of the ink. This will be called here "plastic viscosity" because this reciprocal is analogous to the viscosity of liquids. Printing inks in general are plastic. They, therefore, have a second flow resisting factor. This is called the "yield value" and is the force necessary to start flow. It is this factor that distinguishes plastics from liquids, for in true Newtonian liquids, the yield value is always zero and consequently liquid flow takes place under any pressure, no matter how small.

The science of flow is called rheology. The rheologist has a simple way of graphically recording both viscosity and yield value. His data for doing this are obtained with a viscometer permitting a variable force. For the measurements of inks the rotational or Couette type of instrument is ideally suited. Here it is necessary simply to plot revolutions per minute against the corresponding torque induced in the torsion wire. When this scheme is carried out a con-

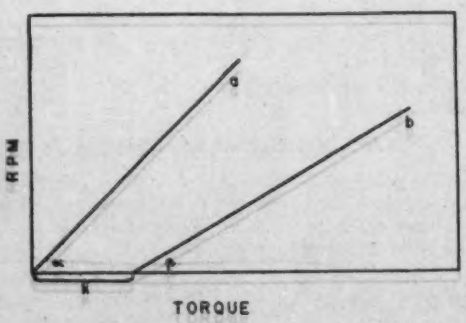

FIG. 1

sistency curve is obtained from which it is possible to calculate viscosity and yield value.

Types of Curves

The types of curves obtained are shown in Fig. 1. Curve a is obtained when a true liquid is run; Curve b, when a plastic is used. The intercept k is the distinguishing feature of the plastic. The yield value of the plastic is directly proportional to this intercept. The viscosities are directly proportional to the cotangents of the angles α and β. The consistency curves show all there is about the flow resistance of the materials involved.

Pull Resistance

Tack has been shown to be equivalent to *pull resistance*. Both adhesion and cohesion have so far been ruled out as the direct cause of this resistance. This leaves surface tension, (which experiments have proven to be negligible in the case of printing inks and will not be discussed here) yield value, and viscosity to explain the phenomenon. Just how these factors line up in relative importance can be determined only by careful laboratory work. Such work requires an instrument constructed in such a manner that pull resistance can be properly analyzed. This means that each of the three factors involved—rate of pull, area of the pulling surface, and initial film thickness—must be varied one at a time, keeping the other two constant. Such an instrument has been made and studied at the Research Laboratories of Interchemical Corporation. It has been called a *tackmeter* and is described in detail in the analytical edition of the Journal of Industrial & Engineering Chemistry (Sept. 15, 1941). In brief, it consists of a metallic finger operated by a lever which in turn is actuated by a series of suspended weights. The rate of pull is varied by changing the weights; the area of the fingertip is varied by using a series of such fingertips, and the film thickness, by a micrometer screw arrangement. Measurements are made with a stopwatch in which the time required for the finger to neck down the ink to the point of rupture is noted. The reciprocal of this time is called the "rate of break". The suspended weight causing the rate of break is obviously the corresponding pull resistance.

Rate of Break

When rate of break is plotted against pull resistance a tack curve is produced. Such curves are shown in Fig. 2. They are actually consistency curves and in every respect similar to the curves in Fig. 1.

From Fig. 2 the fundamental law of pull resistance or tack, can be stated, because these curves are linear.

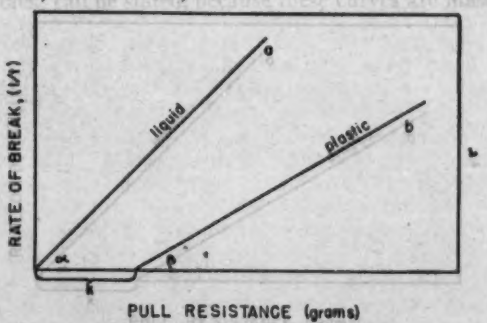

Fig. 2

For true liquids, pull resistance is directly proportional to the rate of break, if the pulling area and the initial film thickness are maintained constant. For plastics, the pull resistance in excess of the yield value is directly proportional to the rate of pull, with area and film thickness again remaining constant.

The exact nature of this proportionality constant is of considerable interest to printers. This constant could, of course, easily be determined numerically by calibrating the tackmeter with an oil of known viscosity but such a procedure would tell nothing of the real nature of the constant. In order to make a successful analysis of this factor it was necessary to carry out two series of experiments. The first of these experiments shows how pull resistance is affected by initial film thickness. In order to accomplish this, film thickness was varied while the pulling weight and pulling area were kept constant. When the square of film thickness was plotted against the rate of break a linear curve was obtained, intersecting the origin. Since pull resistance varies linearly with the rate of break, this discovery means that tack or pull resistance varies inversely as the square of the initial film thickness.

The second series of experiments was executed in a similar manner. The pulling area—i.e., the area of the fingertip—was varied, keeping the initial film thickness and the pulling force constant. When the fourth power of the radius of the fingertip was plotted against the time of break (not the rate of break) a linear relationship was again obtained and this curve also intersected the origin. Since pull resistance bears a straight-line relation to the reciprocal of the time of break it is evident that tack varies as the fourth power of the radius of the fingertip.

The above conclusions in regard to the pull resistance apply strictly to liquids. When plastics are involved, it is the pull resistance *in excess* of the yield value that must be considered. The law of tack can now be combined with the last two experiments. The result is an equation giving a rheological analysis of the finger tapout test. Since this test is synomonous with tack from the inkman's point of view, the equation is also an analysis of tack. The equation is as follows:

$$\text{Tack (T)} = \frac{\pi R^4 \mu}{D^2 t} + Cf \qquad (1)$$

where f is the yield value and $Cf = k$, μ is the viscosity coefficient, R the radius of the finger tip, D the initial film thickness, and t the time of break. The proportionality constant, C is still undefined. It depends, however, on D and R.

What the Practical Ink Man Does

In brief, what the practical inkman attempts to do when he makes a tapout test is to judge the pull resistance that is offered by the ink by means of its viscosity and yield value and as modified by the area of his fingertip, the thickness of the film, and by the rate at which he pulls his finger upward. It is evident that any slight variation in the area of the fingertip will substantially alter his judgment for a fourth power is involved. In other words, if the area is doubled the pull resistance will be increased sixteen fold. Again, if there is a small variation in the film thickness there will be a marked difference in the tack evaluation, for here a second power enters. This means that if the thickness of the film is doubled, the pull resistance will be reduced to one

fourth of its value. The practical man, therefore, must be exceedingly careful to duplicate his conditions exactly, if he is to get comparable results.

An inspection of Equation 1 shows that tack depends on two terms, one involving viscosity, and the other, yield value. If the time of break—i.e., the time of separation of the surfaces—is infinitely long, the viscosity term vanishes, since the time factor is in the denominator. This means that yield value becomes the controlling factor. On the other hand, if the rate of separation is infinitely fast, then the viscosity factor theoretically becomes infinite, dominating the situation and the yield value term becomes negligible by comparison. There has been an instinctive knowledge of this last fact by ink technologists for several years; it has been mentioned in the literature as a possibility by both Bekk and Reed but no explanation was forthcoming such as that revealed by Equation 1.

Equation 1 shows that tack depends not only on the ink but on the area of the printing surface, film thickness, and on the speed of the press. It would be much more desirable if tack depended only on the ink, and was more or less independent of the manner in which the ink is used. Fortunately this situation can be met—from the ink users point of view at least—by putting tack on a relative basis. For instance if a stable substance, such as a mineral oil, is used as a standard of tackiness, then it can be shown how many times tackier the ink is than the standard under similar conditions. This is clearly demonstrated by dividing the tack equation at time t of the ink by the tack equation also at time t of the standard.

$$\text{Relative Tack } \left(\frac{T}{T_0}\right) = \frac{\mu}{\mu_0} + \frac{(KC)tf}{\mu_0} \qquad (2)$$

where T_0 and μ_0 are the tack and viscosity of the standard oil. Both the time factor and the constants due to the instrumental dimensions cancel out of the viscosity term. At the speed of a fast press t becomes exceedingly small and for practical purposes the yield value term can be omitted. If the standard oil is defined to have a viscosity of 1 poise, the relative tack at high speeds becomes equal to the viscosity of the ink. It must be noted, however, that this is a limiting value only. But this value can be used by the printer, because and only because inks are transferred from plate to paper at fast speeds. The ink manufacturer needs to know simply the viscosities of his inks in order to ascertain whether they are in the correct order of tackiness or not. A rotational viscometer can be employed conveniently for measuring relative tack provided the materials subsequently are to be applied at high speeds. If such materials are thixotropic, then only a correctly built high-speed rotational viscometer should be used. Such viscometers are not at the moment on the market but they have been designed and soon will be available.

Report of the Vocational Training Committee, 1941*

By Wilbur L. Cassiday [1], Chairman

In April, 1941, the activities of the TECHNICAL ASSOCIATION OF THE PULP AND PAPER INDUSTRY dealing with vocational education and employee training were revived under the Industrial Division through the organization of the Vocational Training Committee. As stated in the Association Year Book for 1942 the function of the Committee is *the promotion and development of educational programs for mill operating and technically trained men in paper, paperboard, and pulp mills.*"

Types of Training

The first meeting of the new Committee was held during the TAPPI Fall Convention in Ann Arbor, Michigan. The members decided that the first project of the Committee should be to determine the types of training programs now in operation throughout the industry. Certain programs have been extensively publicized such as those conducted in Camas and Longview, Washington, Canton, N. C., and Port Huron, Mich., but there are probably other noteworthy programs which remain unknown to the industry. It was decided that this information could best be procured by sending out a suitable questionnaire to all paper, paperboard, and pulp mills of the United States and Canada. Professor Thomas Diamond, head of the Vocational Education Department of the University of Michigan, who was a guest at the committee meeting, offered to sponsor the issuing of the questionnaire. It will be ready for distribution early in 1942.

To Be Basis for a Bulletin

It is the plan of the Committee to use the information gained through the returns of the questionnaire as the basis for a bulletin on vocational training programs in operation in the pulp and paper industry. This bulletin would present completely and accurately (1) the manner in which the training is being given in the existing programs, (2) an explanation of the financing of the programs, (3) the types of courses offered or available, including both operating instruction and related subject matter for maintenance and repair workers as well as production workers, and both resident study and correspondence courses, (4) the procedure to be followed by the mills in obtaining such programs for their workers, (5) suggestions regarding (a) the determination of the need for a training program, and (b) the organization and conthat the industry will derive from carrying out a duction of a program, and (6) the ultimate benefits training program.

* To be presented at the Annual Meeting of the Technical Association of the Pulp and Paper Industry, Hotel Commodore, New York, N. Y., Feb. 16-18, 1942.

[1] Member TAPPI; Pulp and Paper Instructor, Port Huron, Mich.

Imports of Paper and Paper Making Stock

Giving Manifests of New York, Boston, Philadelphia and Other Ports of Newsprint, Wrapping, Writing, Coated, Blotting, Tissue, Strawboard, Wallboard, Cigarette Papers, Sulphite, Kraft and Ground Wood Pulp.

Importers may have their shipments listed in these columns by submitting records of imports to this publication.

NEW YORK IMPORTS

WEEK ENDING JANUARY 31, 1942

RAGS, BAGGINGS, ETC.

Irving Trust Co., ——, ——, 137 bls. old rags.
——, ——, ——, 47 bls. rags.
——, ——, ——, 590 bls. cotton linters.
——, ——, ——, 214 bls. cotton waste.
West Texas Cottonoil Co., ——, ——, 478 bls cotton linters.
Williamson Products Co., ——, ——, 303 bls. cotton linters.
Kauders Steuber Co., ——, ——, 968 bls. cotton linters.
New England Waste Co., ——, ——, 967 bls. cotton linters.
American Cotton Products Co., ——, ——, 121 bls. cotton waste.

OLD ROPE

A. W. Fenton & Co., ——, ——, 7 bls. old rope.
Loumar Textile By-Products, Inc. ——, ——, 151 bls. old hemp rope cuttings.

CASEIN

National City Bank, ——, ——, 417 bags casein.
J. H. Schroeder B'k'g. Corp., ——, ——, 417 bags lactic ground casein.
Bieco Manufacturing Co., ——, ——, 250 bags casein.
H. S. Cramer & Co., Inc., ——, ——, 417 bags ground casein, 834 bags ground lactic casein.
E. Lang, ——, ——, 417 bags casein.
The Borden Co. ——, ——, 417 bags casein.
——, ——, ——, 854 bags ground lactic casein.
Packing Products Co., ——, ——, 417 bags ground lactic casein.
——, ——, ——, 867 bags ground lactic casein, 100 bags casein.
National City Bank, ——, ——, 76 bags casein.
Casein Co., of America, Inc., ——, ——, 1700 bags lactic casein.
American Plastic Corp., ——, ——, 1423 bags rennet unground casein.
Casein Co., of America, Inc. ——, ——, 850 bags ground casein.
H. S. Cramer & Co., Inc., ——, ——, 837 bags ground casein.
T. M. Duche & Sons, Inc. ——, ——, 500 bags unground casein.
Steinhardter & Nordlinger, ——, ——, 1200 bags casein.
American Cyanamid & Chemical Corp. ——, ——, 1668 bags casein.

GLUES STOCK, ETC.

J. Freedson, ——, ——, 5 bls. glue stock.
H. Remis & Co., ——, ——, 481 bls. glue stock.
——, ——, ——, 312 bls. glue stock.
T. W. Dunn, ——, ——, 100 bags bone glue.
C. B. Hewitt & Bros., ——, ——, 100 bags bone glue.
——, ——, ——, 470 bags bone glue.
M. de Botelho, ——, ——, 100 bags animal glue.
National City Bank, ——, ——, 300 bags animal glue.
Prague Credit Bank, ——, ——, 400 bags animal glue.

Pulpwood Export Permit Required

WASHINGTON, D. C., February 4, 1942—Pulpwood of spruce, balsam, hemlock, jackpine, or poplar, either in the form of cordwood or logs, is prohibited from exportation from Canada, effective February 1, except under permit, according to an announcement by the Minister of Trade and Commerce, Ottawa, according to a report to the Department of Commerce.

Control of exports of pulpwood is considered necessary because of the apparent shortage due to increased demand both in the United States and Canada and scarcity of labor for woods operations, which is accentuated by additional purchases on behalf of United States mills at rising prices.

The Minister emphasized that in placing pulpwood under control it is not the intention to discriminate against established American interests but as far as possible pulpwood shipped to the United States under export permit shall continue to bear the same relationship to total available cut as has been customary in recent years.

The Canadian Timber Controller has agreed not to take any action with respect to export limitations which would hinder fulfillment of any bona fide purchase contracts executed prior to January 15, 1942. Subsequent procedure will be determined after points involved have been cleared with the Joint Economic Committees in order that the interests of both countries may be considered.

In considering the control of pulpwood it will be kept in mind that from 75 to 80% of total Canadian production of semi-finished and finished pulp and paper products is now being shipped to United States markets and consequently any development which would disproportionately curtail the amount of pulpwood made available as raw material to Canadian pulp and paper mills would inevitably have unfavorable repercussions on the amount of the semi-finished or finished product available to the American market.

Applications for export permits made by Canadian exporters to the Export Permit Branch of the Department of Trade and Commerce, Ottawa, will be referred to the Timber Controller of the Department of Munitions and Supply.

Labor Scarce on Pacific Coast

VANCOUVER, B. C., February 2, 1942—Threatened shortage of labor is becoming one of the more serious problems faced by the pulp and paper industry on the Pacific coast, due to heavy enlistments for the fighting forces in some of the mill communities.

To a lesser degree the situation may be the pulp industry has given employment to large numbers of Japanese, one plant alone having approximately 400 on its payroll recently.

Labor shortage is already acute in the eastern pulp and paper industry, according to Hon. Earl Rowe, president of the Great Lakes Paper Mill at Fort William, Ont.

New York Paper and Pulp Market Review

Demand For Wrapping Paper, Container and Fiber Board Continues Strong—Pulp Market Strong With Allocation Plan On Sulphite Pulp In Effect — Mill Buying of Waste Paper Heavy.

Office of the PAPER TRADE JOURNAL
Wednesday, February 4, 1942.

Heavy demand for many major grades of paper and paper board continues in the reports received this week from many manufacturers' representatives, jobbers, and general paper merchants.

The record high level of general business activity is shown in the latest report of the National Industrial Council Board, the index of which was 32% higher in December 1941 than for the like period in 1940. Unfilled orders decreased 1% in December but were 76% above the year 1940. The increase in the figure of manufacturers' inventories, including all industries, was 25.7% above that of the close of the year 1940. The increase in durable goods was 29.0% larger, while stocks of non-durable goods were 18.9% higher. Inventories of all wholesale concerns were 29.0 higher.

The index of general business activity for the week ended January 24 rose to 139.6%, from 137.2% for the preceding week, compared with 122.2% for the corresponding week in 1941. Paper board production was fractionally higher.

Paper production for the week ended January 24 was estimated at 104.1%, compared with 87.4% for 1941, with 91.2% for 1940, and with 81.4% for 1939, and with 67.1% for the corresponding week for 1938.

Paperboard production for the week ended January 24 was 101.0%, compared with 78.0% for 1941, with 75.0% for 1940, with 66.0% for 1939, and with 60.0% for the corresponding week for 1938.

The tapering off in demand for coated book paper was expected in the trade and this trend is expected to continue. Large consumers of coated book papers, such as the automobile manufacturers, electric appliance producers and other manufacturing groups, under the urgency of war demands, have been forced to stop production or have greatly curtailed output, hence they have nothing or very little to sell. Demand for uncoated book paper for publication also follows the same trend, through sharp curtailment in advertising appropriations in consumer periodicals.

Wrapping paper and paper board are in very heavy demand for essential war requirements. Difficulty in producing enough container boards to meet the huge war demand and abnormally heavy trade requirements, is likely to result in a tight supply situation for less essential consumer needs, later on.

Paper prices are well stabilized for the first quarter of this year. The current high level of general business activity is expected in some quarters to be maintained, while some in the trade expect business will advance substantially above the current consumer demand. Although the price control law now in effect is generally viewed as insufficiently inclusive to prevent inflation, it is expected to at least act as a brake to prevent prices from rising too rapidly or too high. Curtailment of production, and temporary stoppage of the manufacture of various kinds of consumer goods for the duration of the war, with resulting unemployment while workers are shifted from non-defense to war industries, is also expected to affect the future course of business adversely. The abnormal demand exerts strong pressure for higher prices but a large part of the paper industry is cooperating closely with the government, and voluntary agreements not to raise prices may serve to keep paper and pulp prices stabilized at a moderate high level, which is the expressed desire of the OPA.

Chemical Pulp

Demand for chemical wood pulp continues in excess of supply for prime grades. Prices are stabilized. Total consumption of all chemical wood pulp for 1941 is estimated in some quarters at about 8,960,000 tons, or 1,000,000 tons larger than for 1940. Domestic production at about 8,060,000 tons is also about 1,000,000 tons larger than in 1940.

Rags

Demand from mills continues steady for white rags. Prices are firm and unchanged.

Roofing rags are moving well, with mills paying OPA ceiling prices.

Old Rope and Bagging

Prices on old Manila rope are firmly maintained. The supply situation continues to reflect no probable improvement for sometime, while demand is expected to continue to freely absorb all available supplies.

Trading in scrap bagging is reported less active this week. Prices are unchanged.

Old Waste Paper

Demand for major grades of old waste paper continues strong, under active buying of mills and reserve stocks for overseas shipments. This is especially noted, trade reports state, in No. 1 mixed paper, stocks of which are being gathered for shipment to England as a part of the requirements of the lend-lease plan. The OPA schedule of prices prevail, with some complaints of lack of adherance to OPA prices by some dealers and mills.

Twine

Active demand and a scarcity in some imported fibers, is reported in some quarters of the twine market. Prices on all grades of hard and soft fiber twine are firm.

To Open Paper Bids on March 2

WASHINGTON, D. C., February 3, 1942—The Paper Specifications Committee of the Joint Congressional Committee on Printing today completed its work on new specifications. Unless the present plan is changed the Joint Committee will open bids on March 2 for paper for a three months' period for use of the Government Printing Office from April 1. The meeting for the making of wards will be held on March 9. It is understood that the quantity will be about the same as for the last period.

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Cass, West Virginia
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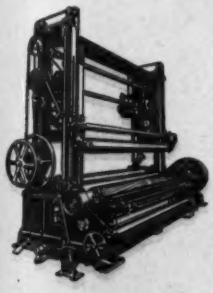

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MISCELLANEOUS MARKETS

Office of the PAPER TRADE JOURNAL
Wednesday, February 4, 1942.

BLANC FIXE—Quotations on blanc fixe are firm and continue unchanged at prevailing market levels. Situation less tight at this date. The pulp is currently quoted at $40 per ton in barrels, at works; the powder is offered at $60 per ton, f.o.b., works.

BLEACHING POWDER—Prices on bleaching powder are firm. Market reported active for the week. Prices stabilized by agreement with OPA. Bleaching powder is currently quoted at $2.25 per 100 pounds, in drums, at works.

CASEIN—Quotations on casein are firm. Demand reported good for the week. Standard domestic casein, 20-30 mesh, is currently quoted at 30 cents per pound; 80-100 mesh at 30½ cents per pound; all prices in bags, car lots. Standard Argentina casein is currently offered at 27 cents per pound. No quotations on French casein.

CAUSTIC SODA—Prices on caustic soda are reported firm. Demand active for the current week. Solid caustic soda is currently quoted at $2.30 per 100 pounds, flake and ground at $2.70 per 100 pounds, in drums, at works.

CHINA CLAY—Quotations on china clay are firm and continue unchanged. Domestic filler clay is currently quoted at from $7.50 to $15 per ton; coating clay at from $12 to $22 per ton, at mines. Imported clay is quoted at from $13 to $25 per long ton, ship side.

CHLORINE—Quotations on chlorine unchanged. Market under full priority control, with full allocation on February 1. Chlorine is currently quoted at from $1.75 per 100 pounds, in single-unit tank cars, f.o.b., works.

ROSIN—Quotations on some grades of rosin are unchanged for the current week. "G" gum rosin is currently quoted at $3.23 per 100 pounds, in barrels, Savannah. "FF" wood rosin is currently quoted at $3.23 per 100 pounds in barrels, New York. Seventy per cent gum rosin size is quoted at $3.49 per 100 pounds, f.o.b., works.

SALT CAKE—Prices on salt cake are firm. Demand active for the current week. Domestic salt cake is currently quoted at $15 per ton in bulk; chrome salt cake at $16 per ton. All prices in car lots, f.o.b., shipping point. Quotations on imported salt cake are nominal at $16 per ton.

SODA ASH—Quotations on soda ash are firm and continue to conform to prevailing market quotations. Demand reported heavy. Quotations on soda ash in car lots, per 100 pounds, are as follows: in bulk, $.90; in paper bags, $1.05; and in barrels, $1.35.

STARCH—Prices on corn starch continue unchanged for the current week. Pearl is currently quoted at $3.10 per 100 pounds; powdered starch at $3.20 per 100 pounds; all prices in bags, car lots, f.o.b., Chicago.

SULPHATE OF ALUMINA—Quotations on sulphate of alumina are firm. Demand reported active. The commercial grades are currently quoted at $1.15 per 100 pounds; iron free at from $1.75 to $1.85 per 100 pounds, in bags, car lots, f.o.b., works.

SULPHUR—Prices of sulphur are firm and continue to conform to prevailing market quotations. Annual contracts are currently quoted at $16 per long ton, f.o.b., mines. Spot and nearby car lots are quoted at $18 per ton.

TALC—Quotations on talc are firm and continue unchanged at prevailing market prices. Domestic talc is currently quoted at from $15 to $21 per ton, at mills. No quotations on imported talc.

MARKET QUOTATIONS

Paper

(Delivered New York)

News, per ton—			
Roll, contract	$50.00	@	—
Sheets	$58.00	"	—
Kraft—per cwt.—Delivered Zone A			
Northern, Extra Quality	$6.00	@	$7.00
Superstandard	5.25	"	6.25
Northern Standard Wrapping	4.75	"	5.25
Standard Wrapping	4.75	"	—
Tissues—Per Ream—Carlots			
White No. 1	1.12½	"	—
White No. 1 M. G.	1.05	"	—
White No. 1½	1.00	"	—
White No. 2	1.00	"	—
Anti-Tarnish M. G.	.95	"	—
Colored	—	"	—
Kraft	.95	"	—
Manila	.90	"	—
Unbl. Toilet, 1 M.	4.16	"	—
Bleached Toilet	5.70	"	—
Paper Towels, Per Case—			
Unbleached, Jr.	2.35	"	—
Bleached, Jr.	2.65	"	—
Manila—per cwt.—C. l. l. a.			
No. 1 Jute	8.75	@	10.75
No. 1 Manila Wrapping, 35 lb.	5.90	"	5.75
No. 2 Manila Wrapping, 35 lb.	5.25	"	5.50
Boards, per ton—			
News	*45.00	@	—
Chip	*45.00	"	—
Sgl. Mla. Ll. Chip	*60.00	"	—
White Pat. Coated	*75.00	"	—
Kraft Liners 50 lb.	*60.00	"	—
Binders Boards	*80.00	"	—

* OPA Maximum Base Prices

The following are representative of distributors' resale prices:

Rag Content Bonds and Ledgers—White, Assorted Items, Delivered in Zone 1:

	Bonds		Ledgers
100% Rag Ext. No. 1	$40.25 @ $47.25		$41.40 @ $48.50
100% Rag	32.20 " 37.75		33.35 " 39.25
85% Rag	.... "		32.20 " 37.75
75% Rag	24.75 " 29.00		25.90 " 30.50
65% Rag	.... "		22.80 " 27.75
50% Rag	18.70 " 22.75		19.90 " 24.25
25% Rag	16.40 " 20.00		17.55 " 21.50

Colors at $1.00 cwt. extra.

Sulphite Bonds and Ledgers—White, Assorted Items. Delivered in Zone 1:

	Bonds	Ledgers
No. 1	$10.55 @ $12.75	$11.70 @ $14.25
No. 2	9.65 " 11.75	10.80 " 13.25
No. 3	9.20 " 11.25	10.35 " 12.50
No. 4	8.90 " 10.75	10.05 " 12.25

Colors $1.00 cwt. extra.

Free Sheet Book Papers—White, Cased Paper. Delivered in Zone 1:

No. 1 Glossy Coated	$13.65 @ $15.50
No. 2 Glossy Coated	12.40 " 14.00
No. 3 Glossy Coated	11.60 " 13.25
No. 4 Glossy Coated	11.15 " 12.75
No. 1 Antique (watermarked)	10.25 " 11.75
No. 2 Offset	9.60 " 11.00
A Grade E. F.	9.35 " 10.75
A Grade S. & S. C.	9.60 " 11.00
B Grade E. F.	8.85 " 10.25
B Grade S. & S. C.	9.10 " 10.50
C Grade E. F.	8.55 " 9.75
C Grade S. & S. C.	8.80 " 10.00
D Grade E. F.	8.25 " 9.50
D Grade S. & S. C.	8.50 " 9.75

Ivory & India at $.50 cwt. extra.

Mechanical Pulp

(On Dock, Atlantic Ports)

No. 1 Imported—			
Moist	No price		
Dry	No price		
(Delivered)			
No. 1 Domestic and Canadian	40.00	@	41.50

Chemical Pulp

(On Dock, Atlantic, Gulf and West Coast Ports)

Bleached Sulphite (Domestic and Foreign)—			
Prime Bleached Sulphite	3.62½	@	4.71
Prime Qualities—			
Easy-Bleaching Sulphite	3.17½	"	4.31
Strong Unbleached Sulphite	3.17½	"	4.21
News Grade, delivered			
Unbleached Sulphite	63.75	"	67.71

(On Dock, Atlantic Ports)

Kraft Bleached	4.12½	"	—
Kraft Light & Strong	No price		
Kraft No. 1	No prices		
(Delivered)			
Kraft Domestic and Canadian	3.00	"	4.00
(Delivered)			
Soda Bleached	3.30	"	—

Add 60 cents per short ton, freight charges for Albany; $2.50 for Lake Ports East and $3.50 for Lake Ports West of Mackinac Straits.

Domestic Rags

New Rags

(Prices to Mill f. o. b. N. Y.)

Shirt Cuttings—			
New White, No. 1	8.00	@	8.21
Silesias No. 1	4.50	"	4.71
New Unbleached	8.00	"	8.21
Blue Overall	5.75	"	6.40
Fancy	3.00	"	3.21
Washables	2.50	"	2.71
Mixed Khaki Cuttings	2.50	"	2.71
O. D. Khaki Cuttings	3.00	"	3.15

Old Rags

White, No. 1—			
Repacked	*3.80	"	—
Miscellaneous	*3.20	"	—
White, No. 2—			
Repacked	*2.90	"	—
Miscellaneous	*2.90	"	—
Third and Blues—			
Repacked	*2.20	"	—
Miscellaneous	*1.80	"	—
Roofing Rags—			
No. 1	*1.50	"	—
No. 2	*1.45	"	—
No. 3 (bagging)	*1.35	"	—
No. 4	*1.35	"	—
No. 5A	*1.35	"	—

*OPA Maximum Prices.

Foreign Rags

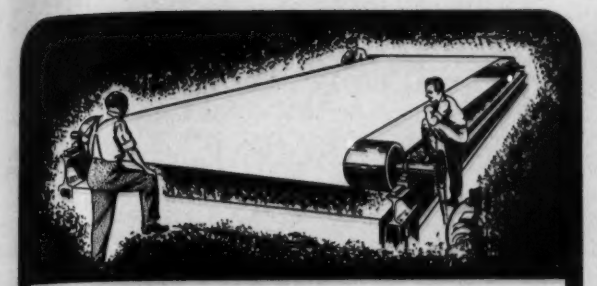
All prices nominal

New Rags

New Dark Cuttings	2.25	@	2.40
New Mixed Cuttings	2.00	"	2.20
New Light Silesias	5.50	"	5.75
Light Flannelettes	5.50	"	5.75
New White Cuttings	7.00	"	7.50
New Light Oxfords	4.00	"	4.50
New Light Prints	3.00	"	3.25

Old Rags

No. 1 White Linens	7.50	"	8.50
No. 2 White Linens	6.50	"	7.50
No. 3 White Linens	4.50	"	—



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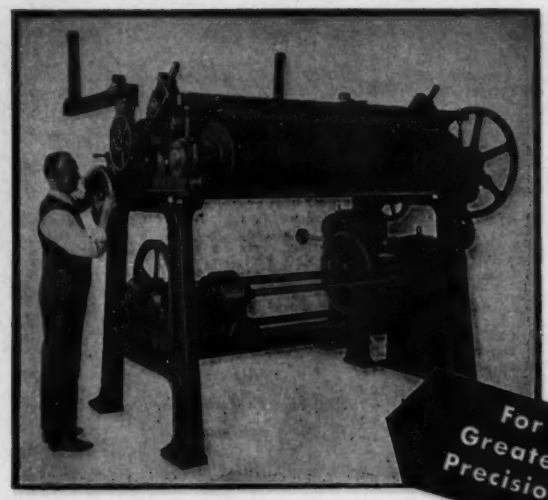
The SINCLAIR Company
HOLYOKE, MASS.



For Greater Precision

ROTARY SPOT CUTTER

All anti-friction bearings—for cutting preprinted rolls of paper to mark—Manual or automatic photo-electric control.

THE SMITH & WINCHESTER
Manufacturing Company
SOUTH WINDHAM ★ CONNECTICUT

USED .006 LINER . . .
. . . NOW USES .004

BAUER DOUBLE-DISC PULPERS PERMIT BOARD MILL TO MAKE SUBSTANTIAL STOCK SAVINGS

Double-disc action means less cutting and shortening. So much less, in fact, that one mill forming folding board (name on request) obtained a 33% saving on Kraft liner.

How? Bauer pulpers produce a .004 liner of greater covering power with no sacrifice of strength . . . greater coverage even than with the .006 liner formerly made. This result made possible by the unusual defibering action of Bauer machines.

Apply your liner costs and tonnage figures for a year to a comparative saving. May be it wouldn't be 33% . . . maybe only 20%. Figure up what even a low percentage reduction would save.

Full facts and figures await your request. Write, wire, or telephone today.

THE BAUER BROS. CO.
SPRINGFIELD, OHIO

THE BAUER BROS. CO. SPRINGFIELD, OHIO

No. 4 White Linens.	2.25	@	3.25
No. 1 White Cotton.	4.25	"	4.75
No. 2 White Cotton.	3.25	"	3.75
No. 3 White Cotton.	2.50	"	3.00
No. 4 White Cotton.	1.90	"	2.20
Extra Light Prints..	2.00	"	2.40
Ord. Light Prints...	1.75	"	2.15
Med. Light Prints...	1.55	"	1.95
Dutch Blue Cottons.	2.25	"	2.50
French Blue Linens.	3.00	"	—
Checks and Blues...	2.00	"	—
Linsey Garments....	1.90	"	2.00
Dark Cottons.....	1.50	"	1.60
Old Shopperies.....	1.30	"	1.45
New Shopperies.....	1.45	"	1.50
French Blues.....	2.25	"	2.50

Old Rope and Bagging

(Prices to Mill, f. o. b. N. Y.)

Gunny No. 1—			
Foreign	Nominal		
Domestic	4.00	@	4.25
Wool Tares, light....	4.25	"	4.50
Wool Tares heavy..	4.50	"	4.75
Bright Bagging.....	3.50	"	3.75
Manila Rope			
Foreign	6.50	"	6.75
Domestic	6.50	"	6.75
Jute Threads.....	4.00	"	4.25
Sisal Strings.....	2.75	"	3.00
Mixed Strings.....	1.10	"	1.20

Old Waste Papers

(F. o. b. New York)

OPA Maximum Prices

No. 1 Hard White Envelope Cuts, one cut	3.37½	@	—
No. 1 Hard White Envelope Cuts....	3.12½	"	—
No. 1 Hard White Shavings, unruled.	2.87½	"	—
No. 1 Hard White Shavings, ruled...	2.50	"	—
Soft White Shavings, one cut.....	2.87½	"	—
No. 1 Soft White Shavings	2.50	"	—
Soft White Shavings, Misc.	2.15	"	—
No. 1 Fly Leaf Shavings	1.67½	"	—
No. 2 Fly Leaf Shavings	1.12½	"	—
No. 1 Groundwood Fly Leaf Shavings	1.25	"	—
No. 2 Mixed Groundwood Fly Leaf Shavings	.90	"	—
Mixed Colored Shavings	.75	"	—
Mixed Groundwood Colored Shavings..	.90	"	—
Overissue Magazines	1.67½	"	—
No. 1 Heavy Books & Magazines.....	1.57	"	—
Mixed Books.....	1.07½	"	—
No. 1 White Ledger	2.17½	"	—
No. 2 Mixed Ledger, colored	1.87½	"	—
New Manila Envelope Cuttings, one cut..	2.87½	"	—
New Manila Envelope Cuttings	2.65	"	—
Extra Manilas.....	1.85	"	—
Mixed Kraft, Env. & Bag Cuttings	2.75	"	—
Kraft Envelope Cuttings	3.25	"	—
Triple Sorted, No. 1 Brown Soft Kraft.	2.50	"	—
New 100% Kraft Corrugated Cuttings..	2.25	"	—
No. 1 Assorted Old Kraft	1.75	"	—
Jute Corrugated Cuttings	.90	"	—
Old Corrugated Containers	.82½	"	—
Box Board Cuttings.	.72½	"	—
White Blank News.	1.65	"	—
Overissue News.....	.85	"	—
No. 1 Baled News..	.75	"	—
No. 1 Mixed Paper.	.70	"	—

Twines

(F. o. b. Mill)

(Soft Fiber)

Coarse Polished—			
India	.21	@	—
White Hemp.....	.21	"	—
Fine Polished—			
Fine India.....	.26	"	—
Unpolished—			
Box	.17½	"	—
Paper Makers.....	.17	"	—
Tube Rope.....	.19	"	—
Wall Paper.....	.20½	"	—
Wrapping	.23	"	—
Soft Fiber Rope...	.19	"	—
Cotton	.25	"	—
(Hard Fiber)			
Medium Jays.....	.18	"	—
Mex. Sisal.....	.16	"	—
Manila	.26	"	—

PHILADELPHIA

Domestic Rags (New)

(Price to Mill, f. o. b. Phila.)

Shirt Cuttings—			
New White No. 1.	.07½	@	.07½
New White No. 2.	.04½	"	.05
Light Silesias.....	.04½	"	.04¾
Silesias, No. 1....	.04	"	.04¼
Black Silesias, soft	.03¼	"	.04
New Unbleached..	.07¼	"	.07½
Washable Prints...	.03¾	"	.03½
Washable No. 1..	.02	"	.02¼
Blue Overall.....	.04½	"	.05½
Cottons—According to grades—			
Washable shredding	—	"	.01¾
Fancy Percales....	.03½	"	.03½
New Black Soft....	.02¾	"	.03
New Dark Seconds	1.75	"	2.00
Khaki Cuttings—			
No. 1 O. D.....	.03	"	.03¼
No. 2 Mixed.....	.02¼	"	.02½
Corduroy	.01¾	"	.02¼
New Canvas.....	.04¼	"	.05¼
New Black Mixed.	—	"	.02½

Domestic Rags (Old)

White No. 1—Repacked	3.80	"	—
White No. 2—Repacked	2.90	"	—
Miscellaneous No. 1.	3.20	"	—
Miscellaneous No. 2.	2.65	"	—
Thirds and Blues—			
Miscellaneous	1.80	"	—
Repacked	2.20	"	—
Black Stockings— (Export)	Nominal		
Roofing Stock—			
Foreign No. 1.....	Nominal		
Domestic No. 1...	1.55	"	—
Domestic No. 2...	1.45	"	—
Roofing Bagging..	1.35	"	—

Bagging

(F. o. b. Phila.)

Gunny, No. 1—			
Foreign	Nominal		
Domestic	3.00	"	3.50
Manila Rope.....	5.00	"	5.50
Sisal Rope.....	3.75	"	—
Mixed Rope.....	.75	"	1.00
Scrap—			
No. 1.....	3.25	"	3.50
No. 2.....	1.75	"	1.80
Wool Tares, heavy...	4.00	"	4.25
No. 1 New Light Burlap	3.00	"	4.00
New Burlap Cuttings	3.75	"	4.00

Old Papers

(F. o. b. Phila.)

OPA Maximum Prices

No. 1 Hard White Envelope Cuts, one cut	3.37½	"	—
No. 1 Hard White Shavings, unruled.	2.87½	"	—
Soft White Shavings, one cut.....	2.87½	"	—
White Blank News..	1.65	"	—
Soft White Shavings, Misc.	2.15	"	—
No. 1 White Ledger.	2.17½	"	—
No. 2 Ledger, colored	1.87½	"	—
No. 1 Heavy Books & Magazines.....	1.57	"	—
Overissue Magazines	1.67½	"	—
New Manila Envelope Cuttings	2.65	"	—
No. 1 Assorted Old Kraft	1.75	"	—
No. 1 Mixed Paper.	.70	"	—
Box Board Cuttings.	.72½	"	—
Jute Corrugated Cuttings	.90	"	—
Overissue News.....	.85	"	—
No. 1 Baled News...	.75	"	—

BOSTON

Old Papers

(F. o. b. Boston)

OPA Maximum Prices

No. 1 Hard White Shavings, unruled.	2.87½	"	—
No. 1 Hard White Shavings, ruled...	2.50	"	—
Soft White Shavings, Misc.	2.15	"	—
No. 1 Fly Leaf Shavings	1.67½	"	—
No. 2 Fly Leaf Shavings	1.12½	"	—
No. 1 Groundwood Fly Leaf Shavings	1.25	"	—
No. 2 Groundwood Fly Leaf Shavings	.90	"	—
Mixed Colored Shavings	.75	"	—
New Manila Envelope Cuts, one cut.....	2.87½	"	—
Hard White Envelope Cuts, one cut.....	3.37½	"	—
Triple Sorted No. 1 Brown Soft Kraft.	2.50	"	—
Mixed Kraft Env. & Bag Cuttings.....	2.75	"	—
Kraft Envelope Cuttings	3.25	"	—
No. 1 Heavy Books & Magazines.....	1.57	"	—
New Manila Envelope Cuts, one cut.....	2.87½	"	—
New Manila Envelope Cuttings	2.65	"	—
White Blank News..	1.65	"	—
No. 1 Assorted Old Kraft	1.75	"	—
No. 1 Mixed Paper.	.70	"	—
Overissue News.....	.85	"	—
Box Board Cuttings.	.72½	"	—
Old Corrugated Containers	.82½	"	—
Jute Corrugated Cuttings	.90	"	—

Bagging

(F. o. b. Boston)

Gunny Bagging—			
Foreign	(nominal)		
Domestic	4.00	@	4.15
Sisal Rope.....	4.00	"	4.25
Mixed Rope.....	1.00	"	1.25
Transmission Rope—			
Foreign	(nominal)		
Domestic	3.50	"	3.75
Soft Jute Rope.....	5.25	"	5.50
Manila Rope—			
Foreign	(nominal)		
Domestic	6.75	"	7.00
Jute Carpet Threads.	3.25	"	3.50
Bleachery Burlap....	8.00	"	8.50
Scrap Burlap—			
Foreign	(nominal)		
Domestic	4.00	"	4.25
Scrap Sisal.....	4.00	"	4.25
Scrap Sisal for Shredding	4.25	"	4.50
Wool Tares—			
Foreign	(nominal)		
Domestic	4.00	"	4.25
Aust. Wool Pouches.	5.25	"	5.50
New Burlap Cuttings	4.50	"	5.00
Heavy Baling Bagging	5.00	"	5.50
Paper Mill Bagging..	3.00	"	3.25
No. 2 Bagging.....	1.35	"	—

Domestic Rags (New)

(F. o. b. Boston)

Shirt Cuttings—			
New Light Prints.	.04½	@	.04¾
Fancy Percales....	.04¾	"	.05
New White No. 1.	.08	"	.08¼
New Light Flannelettes	.06	"	.06¼
Canton Flannel, Bleached	.08¼	"	.08½
Underwear Cuttera, Bleached	.08	"	.08¼
Silesias No. 1.....	.04½	"	.05
New Black Silesias..	.03½	"	.04
Red Cotton Cuttings	.03½	"	.04
Soft Unbleached....	.08½	"	.08¾
Blue Cheviots.....	.04½	"	.05
Fancy	.02¾	"	—
Washable	.01¾	"	—
Cottons—According to Grades—			
Blue Overalls.....	—	"	.05½
New Black, Soft..	.03¾	"	.04
Khaki Cuttings.....	.02¾	"	.02¾
O. D. Khaki.....	.02½	"	.03¼
Corduroy	.02	"	.02¾
New Canvas.....	.06	"	.06½
B. V. D. Cuttings...	.07¾	"	.08

Domestic Rags (Old)

(F. o. b. Boston)

White No. 1—			
Repacked	3.80	@	—*
Miscellaneous	3.20	"	—*
White No. 2—			
Miscellaneous	2.65	"	—*
Twos and Blues, Repacked	2.20	"	—*
Old Blue Overalls...	2.25	"	2.50
Thirds and Blues, Repacked	2.20	"	—*
Miscellaneous	1.80	"	—*
Black Stockings.....	3.50	"	4.00
Roofing Stock—			
No. 1.....	1.55	"	—*
No. 2.....	1.45	"	—*
No. 3.....	1.35	"	—*
No. 4.....	1.35	"	—*
No. 5, Quality A..	1.35	"	—*
Quality B..	1.20	"	—*
Quality C..	.95	"	—*

* OPA Maximum Prices.

Foreign Rags

(F. o. b. Boston)

Canvas	(nominal)
Dark Cottons.....	(nominal)
Dutch Blues.....	(nominal)
New Checks and Blues	(nominal)
Old Fustians.....	(nominal)
Old Linsey Garments.	(nominal)
New Silesias.....	(nominal)

CHICAGO

Waste Paper

(F. o. b. Chicago)

OPA Maximum Prices.

Shavings—			
No. 1 Hard White Envelope Cuts, one cut	3.37½	"	—
No. 1 Hard White Shavings, unruled.	2.87½	"	—
No. 1 Soft White Shavings	2.50	"	—
No. 1 White Ledger	2.17½	"	—
No. 1 Heavy Books & Magazines.....	1.57	"	—
White Blank News..	1.65	"	—
Mixed Kraft Env. & Bag Cuttings..	2.75	"	—
No. 1 Assorted Old Kraft	1.75	"	—
Overissue News.....	.85	"	—
No. 1 Baled News..	.75	"	—
No. 1 Mixed Paper..	.70	"	—
No. 1 Roofing Rags..	1.50	"	—
No. 2 Roofing Rags..	1.45	"	—

Restore Back Wages

A total of $2,193.85 in restitution of back wages and unpaid overtime will be paid 43 employees of four firms in the paper and allied products industry in the Metropolitan area. Arthur J. White, regional director of the Wage and Hour Division announces that the successful closing of these cases indicates gratifying cooperation in the paper industry with the Wage and Hour Division in the administration of the Fair Labor Standards Act.

The firms are: Gerofsky Brothers, 19 Bond street, New York, N. Y.; Delia Waste Products Corporation, 1625 Dean street, Brooklyn, N. Y.; Atlas Material Company, Inc., 193 Coffey street, Brooklyn, N. Y.; Lenox Wallpaper Corporation, 402 W. 25th street, New York, N. Y.